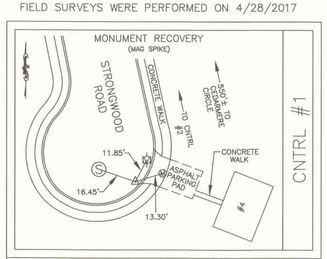
LEGEND

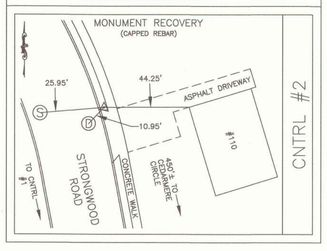
- CONTROL STATION
- 100+1 SPOT GRADE
- SPIG WATER SPIGOT
- (S) EX. SANITARY MANHOLE
- LH SANITARY LAMP HOLE
- EM ELECTRIC METER
- GM GAS METER
- (S) PROPOSED SANITARY MANHOLE
- METAL POST
- BOLLARD
- SMALL BUSH
- LARGE BUSH
- DECIDUOUS TREE
- S PROPOSED SANITARY SEWER
- PROPERTY LINE
- CHAIN LINK/WIRE FENCE
- PVC FENCE
- WOODS LINE
- 450 EXISTING CONTOURS
- LOD LIMIT OF DISTURBANCE
- WL WETLANDS
- WUS WATERS OF THE UNITED STATES
- B WETLANDS BUFFER

COORDINATES AND ELEVATIONS SHOWN HEREON ARE REFERRED TO THE NORTH AMERICAN DATUM OF 1983 (2011) AND NORTH AMERICAN VERTICAL DATUM OF 1988 AND ARE BASED ON THE FOLLOWING CONTROL STATIONS:

CONTROL	NORTH	EAST	ELEVATION
CNTRL #1	N 641,750.376	E 1,366,808.253	666.01
CNTRL #2	N 642,709.672	E 1,366,539.315	649.03

FIELD SURVEYS WERE PERFORMED ON 4/28/2017





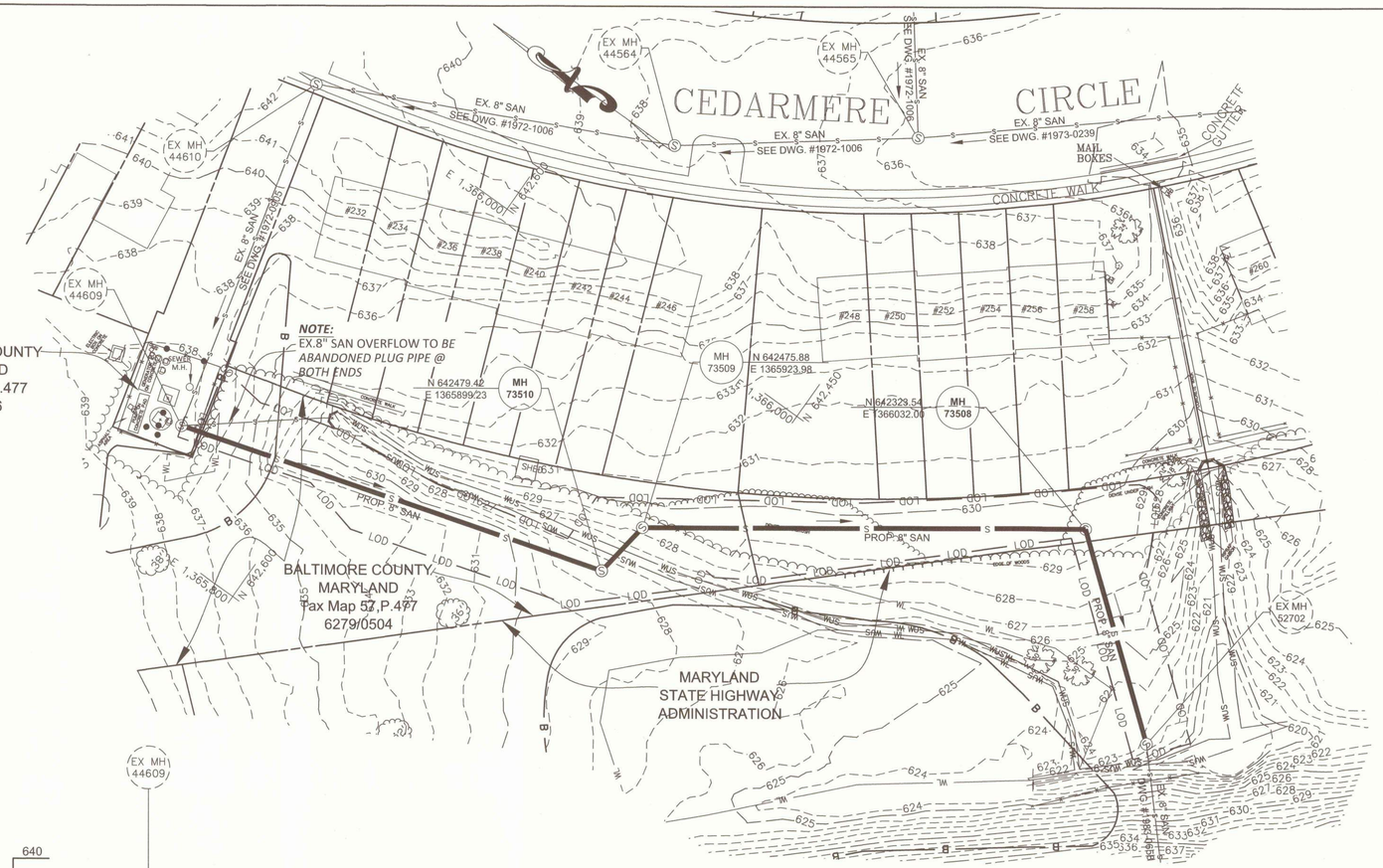
GRADING PERMIT: CEN22-000005

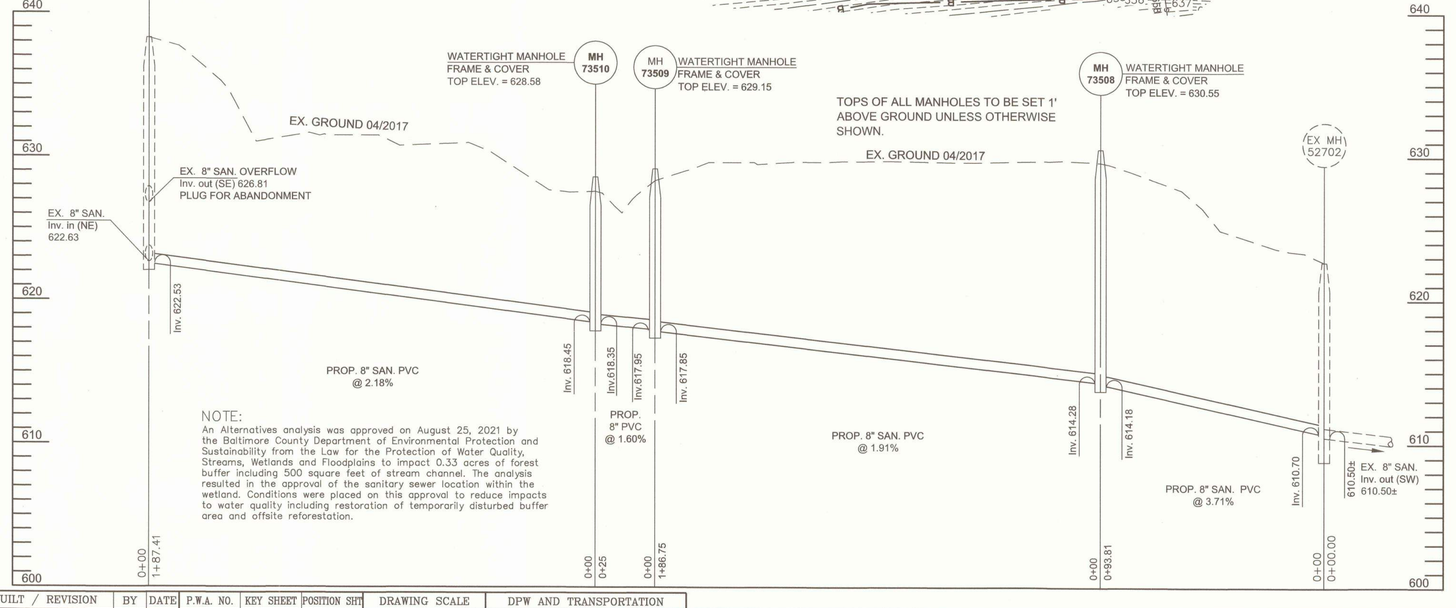
BALTIMORE COUNTY
DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY

APPROVED FOR GRADING DESIGN

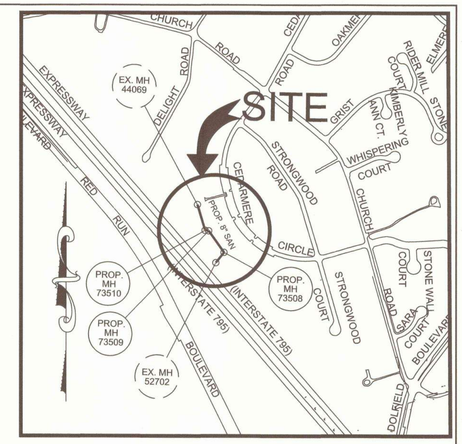
04.14.22
Date

STORMWATER MANAGEMENT PERMIT NOT REQUIRED





NOTE:
An Alternatives analysis was approved on August 25, 2021 by the Baltimore County Department of Environmental Protection and Sustainability from the Law for the Protection of Water Quality, Streams, Wetlands and Floodplains to impact 0.33 acres of forest buffer including 500 square feet of stream channel. The analysis resulted in the approval of the sanitary sewer location within the wetland. Conditions were placed on this approval to reduce impacts to water quality including restoration of temporarily disturbed buffer area and offsite reforestation.



VICINITY MAP
SCALE: 1"=500'

GENERAL CONSTRUCTION NOTES

1. THE COST OF CONNECTING TO EXISTING SEWER AND/OR MANHOLES, INCLUDING THE CONSTRUCTION OF A NEW CHANNEL OR MODIFICATION OF AN EXISTING CHANNEL, IS CONSIDERED INCIDENTAL AND WILL BE INCLUDED IN THE UNIT PRICE BID FOR SANITARY SEWER PIPE.
2. WHEN CONNECTING TO ANY EXISTING MANHOLE, THE MANHOLE MUST BE CORE DRILLED AND "A-LOCK" CONNECTOR, OR APPROVED EQUAL, MUST BE USED. ALL COSTS TO BE INCLUDED IN THE UNIT PRICE BID FOR PIPE OR MANHOLE.
3. SEWAGE FLOW IN EXISTING SEWER IS TO BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION. AT NO TIME WILL IT BE PERMITTED FOR SEWAGE TO BE DISCHARGED ONTO THE GROUND OR INTO ANY STREAMS. ALL COSTS TO MAINTAIN FLOW, INCLUDING ANY PUMPING NEEDED, ARE TO BE INCLUDED IN THE UNIT PRICE BID FOR SANITARY SEWER PIPE.
4. THE EXISTING UTILITIES AND OTHER EXISTING FEATURES SHOWN ARE FROM THE BEST AVAILABLE RECORDS AND THE ACCURACY AND COMPLETENESS OF THIS INFORMATION IS NOT GUARANTEED. THIS INFORMATION SHALL BE VERIFIED BY THE CONTRACTOR TO HIS SATISFACTION PRIOR TO THE START OF WORK. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES AND SHALL MAINTAIN UNINTERRUPTED SUPPLY. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTORS EXPENSE.
5. UNDERGROUND UTILITIES (ELECTRIC, WATER, ETC.) MAY, OR MAY NOT, EXIST ON THE HOMEOWNERS PROPERTY. THE LOCATION OF THESE SERVICES ARE UNKNOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGING THESE SERVICES. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTORS EXPENSE.
6. CONTRACTOR SHALL CONTACT "MISS UTILITIES" AT LEAST 72 HOURS PRIOR TO START UP.
7. SEWER ALIGNMENT TO BE REGRADED TO ORIGINAL CONTOURS AND STABILIZED.
8. ALL SEWER WORK MUST BE DONE BY A BALTIMORE COUNTY PREQUALIFIED CONTRACTOR.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR AVOIDING THE SPILLAGE OF RAW SEWAGE OR OTHER SUBSTANCES WHICH WOULD BE CONSIDERED DANGEROUS TO THE ENVIRONMENT DURING THEIR CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL FURNISH ALL NECESSARY EQUIPMENT TO PREVENT SAID SPILLAGE.
10. IN THE EVENT SEWAGE IS DISCHARGED ONTO THE GROUND OR INTO ANY STREAMS IN CONNECTION WITH THIS CONTRACT ANY PENALTIES INCURRED BY THE COUNTY, ALONG WITH ANY AND ALL OTHER DAMAGES, COSTS AND EXPENSES OF THE COUNTY, SHALL BE THE LIABILITY AND OBLIGATION OF THE CONTRACTOR UNDER THIS CONTRACT.
11. ANY SEWER SPILLS SHALL BE REPORTED WITHIN 24 HOURS TO THE BALTIMORE COUNTY BUREAU OF UTILITIES AT 410-887-7415 AND TO MARYLAND DEPARTMENT OF THE ENVIRONMENT AT 410-537-3510
12. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST VERSION OF THE BALTIMORE COUNTY STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, BALTIMORE COUNTY STANDARD DETAILS FOR CONSTRUCTION, PROJECT SPECIAL PROVISIONS AND AMENDMENTS THERETO, AND ANY PERMIT REQUIREMENTS.
13. ALL WORK WITHIN STATE HIGHWAY ADMINISTRATION PROPERTY WILL BE DONE IN ACCORDANCE WITH SHA PERMIT # SHA-4-BA-0760-18.

Baltimore County Soil Conservation District

APPROVED FOR SEDIMENT CONTROL 2-24-22
Date

Jeffrey P. West — 029-2401-22
DISTRICT OFFICIAL — Plan No.

Technical Review for the District by:
Dave Bachman

This plan approval will expire three (3) years from the approval date.

LIMIT OF DISTURBANCE:
14346.76SQ.FT/0.33ACRES

DESIGN AND DRAWING BASED ON MARYLAND COORDINATE SYSTEM
HORIZONTAL – NAD 1983/2011
VERTICAL – NAVD 1988

CONTRACT COMPLETION BOX	
CONTRACTOR:	
DATE COMPLETED:	
INSPECTOR:	
PIPE MATERIAL (Pressure Only)	

DWG. FILENAME:

SEAL — STATE OF MARYLAND — DAVID ANDREW BAYER — No. 22417 — REGISTERED PROFESSIONAL ENGINEER
DATE : 1/28/22

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 22417, EXPIRATION DATE 07/28/2023

ENGINEER: DAVID A. BAYER
Bureau of Engineering and Construction
111 West Chesapeake Avenue, Rm. 200
Towson, Maryland 21204.
Design Section Sewer
Phone /Fax: (410) 887-881 / 4394

DGN BY: B.B.
DWN BY: P.C.B.
CHKD BY: D.A.B.

AS-BUILT / REVISION	BY	DATE
CONTRACT COMPLETION BOX		

P.W.A. NO.	KEY SHEET	POSITION SHT
R.O.W NO.	TSW	49NW37

DRAWING SCALE
PLAN SCALE: 1" = 30'
PROFILE SCALE: VERT: 1"= 5' HOR: 1"=30'

DPW AND TRANSPORTATION
APPROVED BY: DIRECTOR
DATE: 1/27/22

BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:					MB		1/27/22
DATE REVIEWED:					1/26/22		1/26/22

BUR. OF ENGINEERING & CONSTRUCTION
APPROVED BY: CHIEF
DATE: 1/26/2022

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION – BUREAU OF ENGINEERING & CONSTRUCTION

PROPOSED 8" SANITARY SEWER

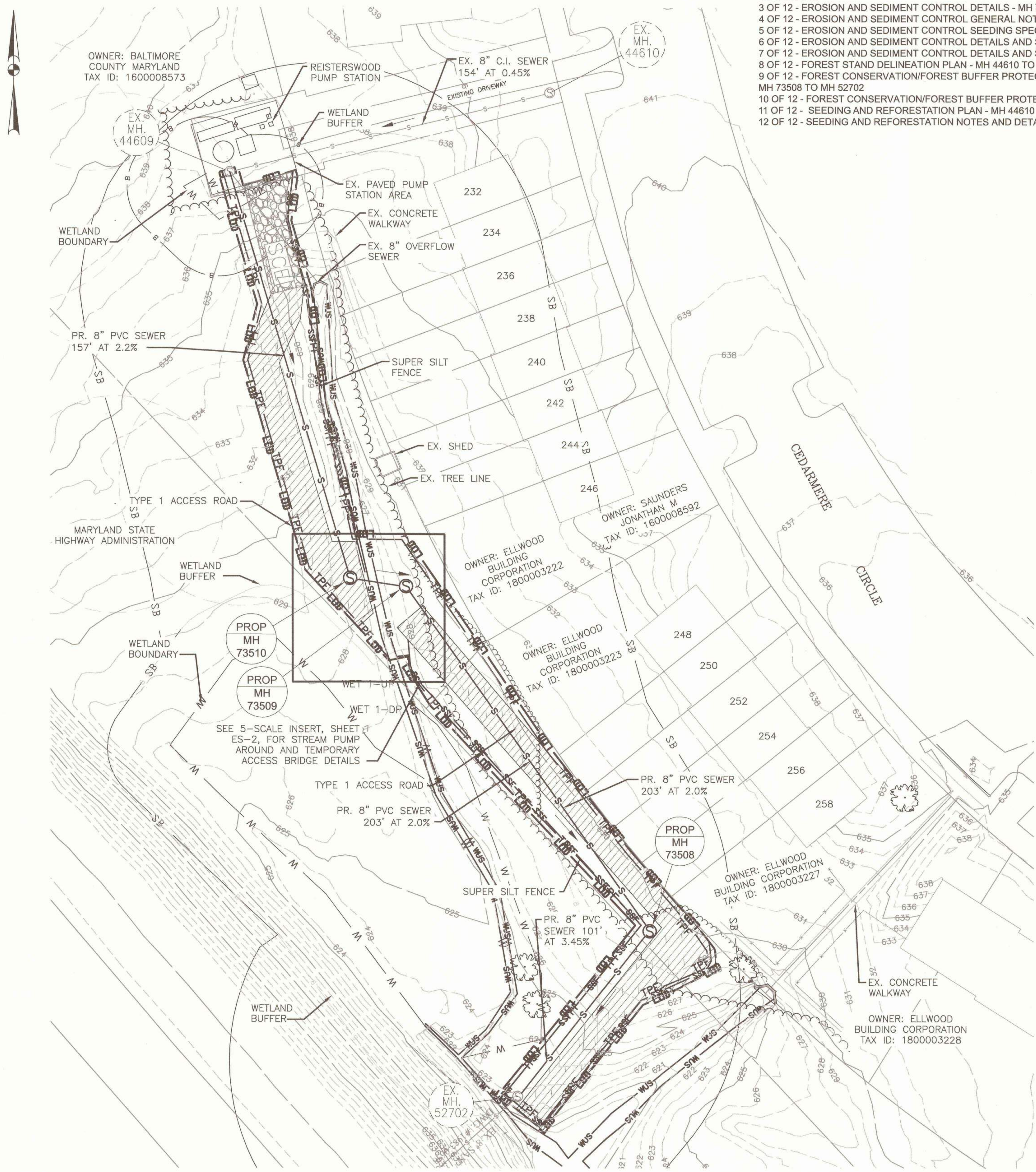
REISTERSWOOD SEWER EXTENSION – CEDARMERE CIRCLE

PLAN AND PROFILE

SUBDIVISION: REISTERSWOOD

ELECTION DIST. NO.: 4c4

SHEET DESIGNATION	CONTRACT NUMBER
	21240 SX0
JOB ORDER NUMBER	231-201-0077-7270
SHEET 1 OF 12	
DRAWING NUMBER	2021-2224
FILE NO.: 1	REV. 6/07



PLAN

SCALE: 1" = 30'

SHEET LIST

1 OF 12 - PLAN AND PROFILE
2 OF 12 - GRADING AND EROSION AND SEDIMENT CONTROL PLAN - MH 44610 TO MH 44609, MH 44609 TO MH 73510, MH 73510 TO MH 73509, MH 73509 TO MH 73508, MH 73508 TO MH 52702
3 OF 12 - EROSION AND SEDIMENT CONTROL DETAILS - MH 73510 TO MH 73509
4 OF 12 - EROSION AND SEDIMENT CONTROL GENERAL NOTES AND SEQUENCE
5 OF 12 - EROSION AND SEDIMENT CONTROL SEEDING SPECIFICATIONS
6 OF 12 - EROSION AND SEDIMENT CONTROL DETAILS AND SPECIFICATIONS
7 OF 12 - EROSION AND SEDIMENT CONTROL DETAILS AND SPECIFICATIONS
8 OF 12 - FOREST STAND DELINEATION PLAN - MH 44610 TO MH 44609, MH 44609 TO MH 73510, MH 73510 TO MH 73509, MH 73509 TO MH 73508, MH 73508 TO MH 52702
9 OF 12 - FOREST CONSERVATION/FOREST BUFFER PROTECTION PLAN - - MH 44610 TO MH 44609, MH 44609 TO MH 73510, MH 73510 TO MH 73509, MH 73509 TO MH 73508, MH 73508 TO MH 52702
10 OF 12 - FOREST CONSERVATION/FOREST BUFFER PROTECTION PLAN - PLANTING NOTES AND SCHEDULES
11 OF 12 - SEEDING AND REFORESTATION PLAN - MH 44610 TO MH 44609, MH 44609 TO MH 73510, MH 73510 TO MH 73509, MH 73509 TO MH 73508, MH 73508 TO MH 52702
12 OF 12 - SEEDING AND REFORESTATION NOTES AND DETAILS

LEGEND

- 635 — EXISTING MAJOR CONTOUR
- 636 — EXISTING MINOR CONTOUR
- EXISTING TREE LINE
- LOD — LIMITS OF DISTURBANCE (LOD)/ STUDY AREA
- S — SEWER
- W — WETLAND BOUNDARY
- B — WETLAND BUFFER
- WUS — WATERS OF THE US
- SSF — SUPER SILT FENCE
- TPF — TREE PROTECTION FENCE
- x — CHAIN LINK/WIRE FENCE
- TYPE 1 ACCESS ROAD (TEMPORARY)
- SCE — STABILIZED CONSTRUCTION ENTRANCE

GENERAL NOTES:

1. NO INSTREAM WORK IS ALLOWED FROM OCTOBER 1ST THROUGH APRIL 30TH OF ANY GIVEN YEAR TO PROTECT SPAWNING TROUT.
2. ENTIRE LOD IS WITHIN THE FOREST BUFFER TO THE USE III TRIBUTARY TO RED RUN.
3. AN ALTERNATIVES ANALYSIS WAS APPROVED ON AUGUST 25, 2021, BY THE BALTIMORE COUNTY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY FROM THE LAW FOR THE PROTECTION OF WATER QUALITY, STREAMS, WETLANDS AND FLOODPLAINS TO IMPACT 0.33 ACRES OF FOREST BUFFER INCLUDING 500 SQUARE FEET OF STREAM CHANNEL. CONDITIONS WERE PLACED ON THIS APPROVAL TO REDUCE IMPACTS TO WATER QUALITY INCLUDING RESTORATION OF TEMPORARILY DISTURBED BUFFER AREA AND OFFSITE RESTORATION.

ESC NOTES:

1. CONTRACTOR'S EQUIPMENT AND MATERIALS SHALL NOT IMPACT ACCESS FOR RESIDENTS.
2. CONSTRUCTION ACCESS ROADS AND STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT ANY LOCATIONS WHERE VEHICULAR ACCESS IS NEEDED WITHIN THE LOD, REGARDLESS OF WHETHER OR NOT IT IS SPECIFICALLY SHOWN ON THIS PLAN SHEET. SCE LOCATIONS SHALL BE COORDINATED WITH THE RESIDENT SEDIMENT CONTROL INSPECTOR. ALL OTHER AREAS SHALL BE ACCESSED BY FOOT.
3. TEMPORARY ACCESS ROADS SHALL BE TEMPORARY AND INSTALLED AS SHOWN IN THE DETAILS ON SHEET ES-6.
4. TREE PROTECTION FENCING SHALL BE INSTALLED AS INDICATED IN THE SEQUENCE OF CONSTRUCTION LOCATED ON THIS SHEET. SEE SHEET ES-5 FOR THE DETAIL.
5. ALL TREE CLEARING SHALL BE BY MANUAL REMOVAL AND SHALL NOT INCLUDE THE GRUBBING OF ROOTS EXCEPT AS NECESSARY FOR TRENCHING. DISTURBANCES TO THE EXISTING SURFACES SHALL BE KEPT TO A MINIMUM. THE SURFACES SHALL BE RETURNED TO ORIGINAL CONTOURS PRIOR TO SEEDING AND PLANTING. ALL DISTURBANCES SHALL BE STABILIZED BY THE END OF EACH WORK DAY.
6. PROPOSED WORK WILL NOT PERMANENTLY CHANGE THE CONTOURS.
7. CONTRACTOR SHALL PROVIDE DAILY INSPECTIONS OF THE EROSION & SEDIMENT CONTROLS.
8. ALL VEHICLES OPERATING WITHIN THE STREAM BUFFER (100FT) MUST CARRY OIL/GAS/GREASE CLEAN UP KITS FOR SPILL ACCIDENTS.
9. CONTRACTOR SHALL DIVERT THE STREAM WHILE INSTALLING THE NEW SEWER LOCATED UNDER THE STREAM. REFER TO THE MARYLAND GUIDELINES TO WATERWAY CONSTRUCTION AND SHEET ES-5 FOR ADDITIONAL INFORMATION/DETAILS IN REGARDS TO THE CROSSING OF, AND THE CONSTRUCTION WITHIN THE STREAM.
10. TO THE MAXIMUM EXTENT PRACTICABLE ACTIVITIES SHOULD TAKE PLACE DURING TIMES WHEN SEDIMENT TRANSPORT ARE LIKELY TO BE LOWER AS PREDICTED BY NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION 1 OR 3 CLEAR DAY WEATHER FORECAST.
11. CONTRACTOR SHALL PLACE PROPER SIGNAGE AND FLAGGING WITHIN THE BUFFER ZONE. SEE SHEET ES-6 FOR SIGNAGE DETAIL.
12. ORANGE HIGH VISIBILITY FENCE SHALL BE MANUALLY INSTALLED ALONG THE ENTIRE LIMIT OF DISTURBANCE. THIS SHALL BE COMPLETED BY AND INSPECTED AT THE PRE-CONSTRUCTION MEETING.

SEQUENCE OF CONSTRUCTION

1. CONTRACTOR SHALL OBTAIN ALL NECESSARY EASEMENTS AND/OR RIGHT-OF-WAYS PRIOR TO BEGINNING WORK.
2. NOTIFY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT, INSPECTION AND COMPLIANCE PROGRAM, (410) 537-3510 AT LEAST 5 DAYS PRIOR TO BEGINNING WORK, AND BALT. CO. DEPT. OF PERMITS, APPROVALS, AND INSPECTIONS - SEDIMENT CONTROL, (410) 887-3226 AT LEAST 48 HOURS PRIOR TO BEGINNING WORK.
3. ORANGE HIGH VISIBILITY FENCE SHALL BE MANUALLY INSTALLED ALONG THE ENTIRE LIMIT OF DISTURBANCE GIVEN ITS LOCATION IN FOREST BUFFER AREA. THIS FENCE SHALL BE INSPECTED AND APPROVED BY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY AT THE PRE-CONSTRUCTION MEETING.
4. CLEAR AND GRUB FOR AND INSTALL ALL SEDIMENT AND EROSION CONTROL MEASURES AND DEVICES. CONTRACTOR SHALL INSTALL AND UTILIZE A TEMPORARY ACCESS BRIDGE FOLLOWING MDE STANDARD DETAIL H-4-1.
5. NOTIFY BALTIMORE COUNTY DEPARTMENT OF PERMITS, APPROVALS AND INSPECTIONS, SEDIMENT CONTROL, (410) 887-3226 UPON COMPLETION OF SAID INSTALLATION.
6. WITH THE APPROVAL OF BALTIMORE COUNTY DEPARTMENT OF PERMITS, APPROVALS AND INSPECTIONS, SEDIMENT CONTROL, AND THE SEDIMENT CONTROL INSPECTOR, PROCEED TO STEP 7.
7. INSTALL ALL GRAVITY SEWER PIPING, MANHOLES, AND COMPLETE ALL NECESSARY CONNECTIONS TO EXISTING STRUCTURES. CONTRACTOR SHALL BEGIN INSTALLATION AT THE DOWNSTREAM CONNECTION WITH EXISTING MANHOLE 52702 AND SHALL WORK UPSTREAM TOWARDS MH 73509. ONCE THE SEWER IS COMPLETED TO MH 73509 THE CONTRACTOR SHALL REMOVE TEMPORARY ACCESS BRIDGE AND INSTALL PUMP AROUND PER PLAN VIEW AND THE DETAILS ON ES-2 AND ES-5. WITH THE PERMISSION OF THE INSPECTOR THE CONTRACTOR SHALL INSTALL THE PORTION OF THE SEWER THAT CROSSES UNDER THE STREAM IN ACCORDANCE WITH THE PUMP AROUND STANDARDS. THE INSTALLATION OF THE SEWER IN THE STREAM CHANNEL VIA OPEN CUTTING SHALL BE COMPLETED IN LESS THAN THREE DAYS DURING A THREE-DAY DRY WEATHER FORECAST.
8. CONTRACTOR SHALL REMOVE TEMPORARY PUMP AROUND AND INSTALL ALL REMAINING GRAVITY SEWER PIPING, MANHOLES, AND COMPLETE ALL NECESSARY CONNECTIONS TO EXISTING STRUCTURES. CONTRACTOR SHALL BEGIN INSTALLATION AT THE DOWNSTREAM CONNECTION WITH MANHOLE 73510 AND SHALL WORK UPSTREAM TOWARDS EXISTING MH 44609.
9. ABANDON THE EXISTING FORCE MAIN. CAP ENDS OF FORCE MAIN WITH CONCRETE. AT MH 44609, BULKHEAD THE PIPE OPENINGS RELATED TO PUMP STATION CONNECTION.
10. STABILIZE ALL DISTURBED AREAS. TURF AREAS TO BE STABILIZED WITH PERMANENT SEED AND MULCH. ANY DISTURBED SLOPE GREATER THAN 15% SHALL BE STABILIZED WITH SEED AND MATTING.
11. UPON STABILIZATION OF SITE WITH ESTABLISHED VEGETATION AND WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, REMOVE SEDIMENT CONTROL MEASURES AND STABILIZE THOSE AREAS DISTURBED BY THIS PROCESS.
12. EIR MUST INSPECT AND APPROVE THE COMPLETED BUFFER PLANTING PRIOR TO THE PLANTING CONTRACTOR LEAVING THE SITE. ANY ISSUES WITH THE RESTORATION MUST BE ADDRESSED AT THAT TIME.

PROPERTY OWNER TABLE

ADDRESS		OWNER NAME	TAX MAP	PARCEL	LOT	DEED REFERENCE
232	CEDARMERE CIRCLE	ROMERO MANUEL ANDERSON BONILLA BONILLA JOSE I A ROMERO	0057	0477	18	37384/ 00222
234	CEDARMERE CIRCLE	NG DAVID T NG LINDA G	0057	0477	19	05813/ 00917
236	CEDARMERE CIRCLE	ROBINSON DEBRA C	0057	0477	20	11103/ 00478
238	CEDARMERE CIRCLE	ROBINSON JEFFREY	0057	0477	21	18793/ 00294
240	CEDARMERE CIRCLE	BETHEA-JACKSON ALICE R	0057	0477	22	27993/ 00366
242	CEDARMERE CIRCLE	GLUSHAKOW LEE H	0057	0477	23	07775/ 00790
244	CEDARMERE CIRCLE	NOCK ROBERT S NOCK DEAH L	0057	0477	24	16973/ 00702
246	CEDARMERE CIRCLE	SAUNDERS JONATHAN M SAUNDERS EUSTRATIA A	0057	0477	25	39877/ 00251
248	CEDARMERE CIRCLE	ELLWOOD BUILDING CORPORATION	0058	0765	26	-
250	CEDARMERE CIRCLE				27	
252	CEDARMERE CIRCLE				28	
254	CEDARMERE CIRCLE	KFLU EMNET T	0058	0765	29	28107/ 00380
256	CEDARMERE CIRCLE	ELLWOOD BUILDING CORPORATION	0058	0765	30	-
258	CEDARMERE CIRCLE	RUSSELL DANA A	0058	0765	31	39573/ 00096
260	CEDARMERE CIRCLE	ELLWOOD BUILDING CORPORATION	0058	0765	32	-

30' 15' 0 30' 60'
SCALE: 1"= 30'-0"

DESIGN AND DRAWING BASED ON MARYLAND COORDINATE SYSTEM HORIZONTAL - NAD 83/1991 VERTICAL - NAVD 88

BALTIMORE COUNTY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY
APPROVED FOR GRADING
Date

Baltimore County Soil Conservation District
APPROVED FOR SEDIMENT CONTROL
Jeffrey P. West 2-24-22
DATE

CONTRACT COMPLETION BOX
CONTRACTOR:
DATE COMPLETED:
INSPECTOR:
PIPE MATERIAL (Pressure Only)

PRINTED ON: January 14, 2022 FILENAME: Q:\2012\12804_013_Reisterswood_Gravity\CADD\E&S\ES-1.dwg

SEAL: STATE OF MARYLAND JUSTIN M. ... 44100 PROFESSIONAL ENGINEER
DATE: 2/1/2022

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 44100, EXPIRATION DATE 6/10/2023

JMT
40 WIGHT AVENUE | HUNT VALLEY, MD 21030
P: (410) 329-3100 | F: (410) 472-2200 | www.jmt.com

DGN BY: ENW
DWN BY: GNA
CHKD BY: JMH

AS-BUILT / REVISION | BY | DATE
CONTRACT COMPLETION BOX

P.W.A. NO.: -
R.O.W NO.: -
KEY SHEET: TSW
POSITION SHT: 49NW37

DRAWING SCALE
PLAN SCALE: AS SHOWN
PROFILE SCALE: N/A N/A

DPW AND TRANSPORTATION
SEE DRAWING 2021-2224 FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION | TRAFFIC | HIGHWAYS | STRUCTURES | STORM DRAINS | SEWER | WATER | FIELD ENGINEER
BUR. OF ENGINEERING & CONSTRUCTION
REVIEWED BY:
DATE REVIEWED:
SEE DRAWING 2021-2224 FOR ORIGINAL SIGNATURES
SEE DRAWING 2021-2224 FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION - BUREAU OF ENGINEERING & CONSTRUCTION

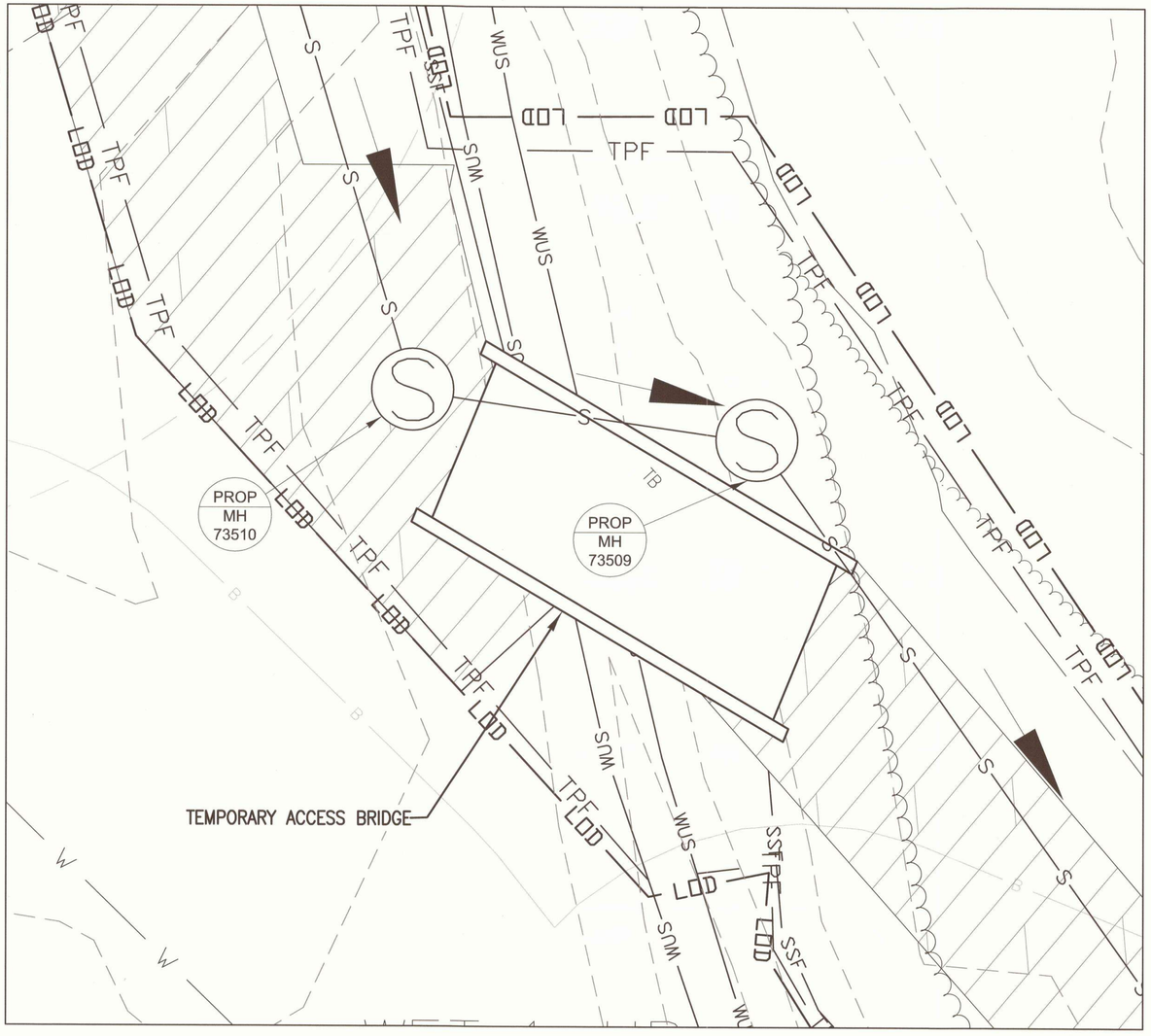
PROPOSED 8" SANITARY SEWER

REISTERSWOOD SEWER EXTENSION - CEDARMERE CIRCLE

GRADING AND EROSION AND SEDIMENT CONTROL PLAN - MH 44610 TO MH 44609, MH 44609 TO MH 73510, MH 73510 TO MH 73509, MH 73509 TO MH 73508, MH 73508 TO MH 52702

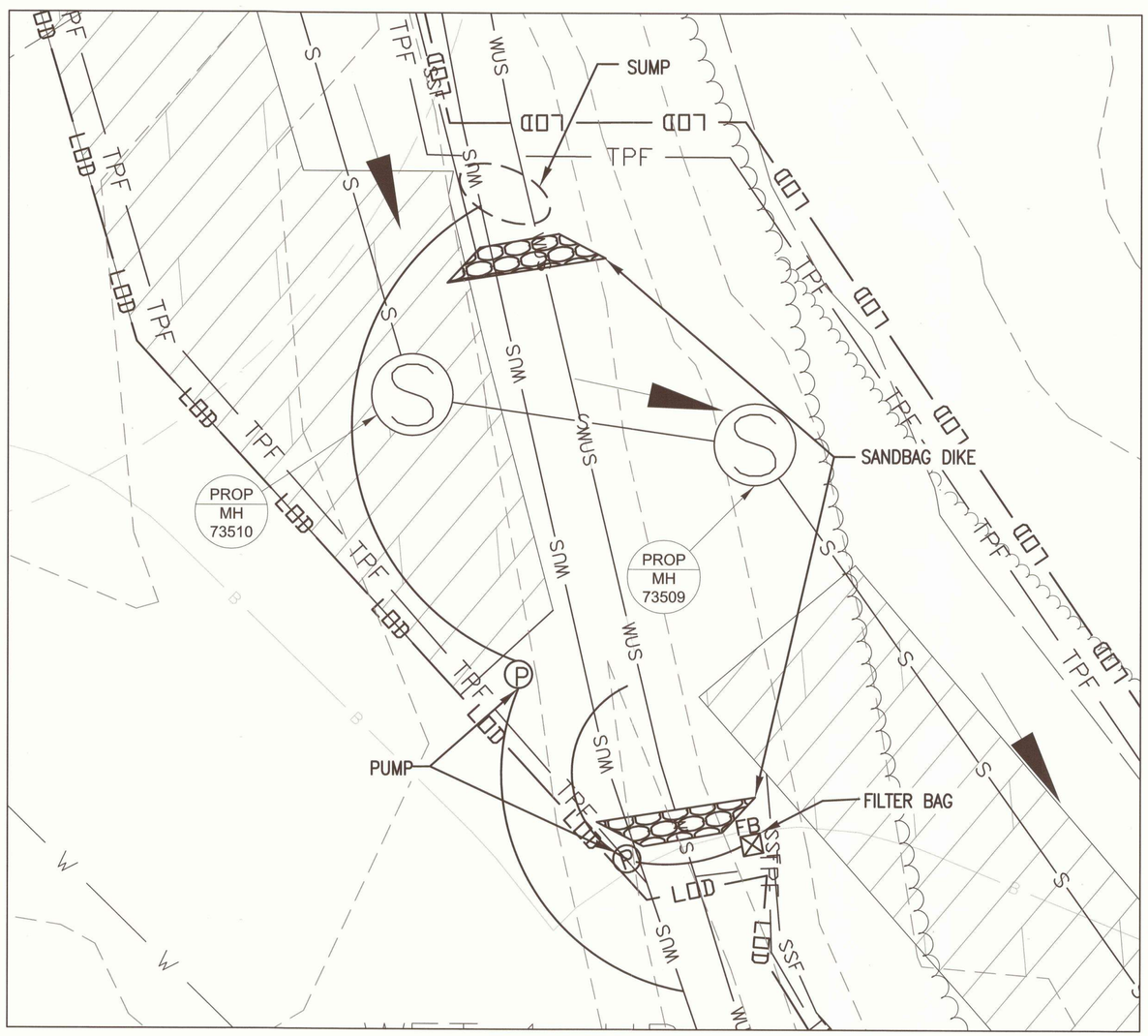
SUBDIVISION: REISTERSWOOD
ELECTION DIST. NO.: 4c4

SHEET DESIGNATION: ES-1
CONTRACT NUMBER: 21240 SX0
JOB ORDER NUMBER: 231-201-0077-7270
SHEET 2 OF 12
DRAWING NUMBER: 2021-2225
FILE NO.: 1



PLAN–TEMPORARY ACCESS BRIDGE

SCALE: 1" = 5'



PLAN–STREAM PUMP AROUND PRACTICE

SCALE: 1" = 5'

Baltimore County Soil Conservation District

APPROVED FOR SEDIMENT CONTROL

Jeffrey P. Wood 2-24-22

DATE

CONTRACT COMPLETION BOX	
CONTRACTOR:	
DATE COMPLETED:	
INSPECTOR:	
PIPE MATERIAL (Pressure Only)	

PRINTED ON: February 9, 2022 FILENAME: Q:\2012\120804_013_Reisterswood_Growth\CADD\E&S\ES-2.dwg

SEAL

STATE OF MARYLAND — JUSTIN M. H. JMH — 44109 — PROFESSIONAL ENGINEER

DATE: 2-9-2022

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

LICENSE NO. 44100, EXPIRATION DATE 6/10/2023

JMT

40 WIGHT AVENUE | HUNT VALLEY, MD 21030

P: (410) 329-3100 | F: (410) 472-2200 | www.jmt.com

DGN BY: ENW

DWN BY: GNA

CHKD BY: JMH

AS–BUILT / REVISION	BY	DATE	P.W.A. NO.
			–
			R.O.W NO.
CONTRACT COMPLETION BOX			–

KEY SHEET	POSITION SHT
TSW	49NW37

DRAWING SCALE	
PLAN SCALE:	N/A
PROFILE SCALE:	N/A
	N/A

DPW AND TRANSPORTATION

SEE DRAWING 2021–2224 FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:	SEE DRAWING 2021–2224 FOR ORIGINAL SIGNATURES						
DATE REVIEWED:							

BUR. OF ENGINEERING & CONSTRUCTION

SEE DRAWING 2021–2224 FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION – BUREAU OF ENGINEERING & CONSTRUCTION

PROPOSED 8" SANITARY SEWER

REISTERSWOOD SEWER EXTENSION – CEDARMERE CIRCLE

EROSION AND SEDIMENT CONTROL DETAILS – MH 73510 TO MH 73509

SUBDIVISION: REISTERSWOOD

ELECTION DIST. NO.: 4c4

SHEET DESIGNATION	CONTRACT NUMBER
ES–2	21240 SX0
JOB ORDER NUMBER	
231–201–0077–7270	
SHEET 3 OF 12	
DRAWING NUMBER	
2021–2226	
FILE NO.: 1	REV. 4c4

SECTION III – CERTIFICATIONS

OWNER'S CERTIFICATION:

"I/WE HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, AND/OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF EROSION AND SEDIMENT BEFORE BEGINNING THE PROJECT. I/WE ALSO CERTIFY THAT THE SITE WILL BE INSPECTED AT THE END OF EACH WORKING DAY, AND THAT ANY NEEDED MAINTENANCE WILL BE COMPLETED SO AS TO INSURE THAT ALL SEDIMENT CONTROL PRACTICES ARE LEFT IN OPERATIONAL CONDITION. I/WE AUTHORIZE THE RIGHT OF ENTRY FOR PERIODIC ON-SITE EVALUATION BY THE BALTIMORE COUNTY SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS."

D'ANDREA WALKER
NAME (PRINTED)

SIGNATURE

111 W. CHESAPEAKE AVE
TOWSON, MD 21204
410-887-3300

1/27/22
DATE

ENGINEER'S CERTIFICATION:

"I/WE HEREBY CERTIFY THAT THIS EROSION AND SEDIMENT CONTROL PLAN REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE, AND THAT THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE BALTIMORE COUNTY SOIL CONSERVATION DISTRICT AND THE 2011 STATE OF MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. I HAVE REVIEWED THIS EROSION AND SEDIMENT CONTROL PLAN WITH THE OWNER."

JUSTIN HALL
NAME (PRINTED)

SIGNATURE

44100
MARYLAND REGISTRATION NUMBER

1/20/2022
DATE

(P.E.) R.L.S. OR R.L.A. (CIRCLE)

40 WIGHT AVENUE
HUNT VALLEY, MD 21030
410-329-3100
JHALL@JMT.COM

OWNER'S/DEVELOPER'S CERTIFICATION – GRADING:

I/WE CERTIFY THAT ALL GRADING ON THIS SITE WILL BE DONE IN ACCORDANCE WITH THE CURRENT GRADING REQUIREMENTS AS SET FORTH BY THE BALTIMORE COUNTY DEPS AND WITH THE REQUIREMENTS SPECIFIED IN ARTICLE 33, TITLE 5 OF THE BALTIMORE COUNTY CODE.

SIGNATURE

1/24/22
DATE

D'ANDREA WALKER
NAME (PRINTED)

DIRECTOR OF PUBLIC WORKS
TITLE

111 W. CHESAPEAKE AVE
TOWSON, MD 21204
410-887-3300

SITE DATA

AREA OF SITE . . . . . 14,347 SF/ 0.33 AC
LIMIT OF DISTURBANCE. . . . . 14,347 SF/ 0.33 AC
FILL . . . . . 0 CY.
CUT . . . . . 0 CY.
AREA VEGETATIVELY STABILIZED . . . . . 14,347 SF/ 0.33 AC
IMPERVIOUS AREA . . . . . 0 SF/ 0 AC.

CIVIL ENGINEER DOES NOT GUARANTEE OR WARRANT THIS INFORMATION. CONTRACTOR IS RESPONSIBLE FOR SOIL QUANTITY CALCULATIONS.

PLANT HARDINESS ZONE: 7A

GENERAL NOTES

1. REFER TO "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" FOR STANDARD DETAILS AND DETAILED SPECIFICATIONS OF EACH PRACTICE SPECIFIED HEREIN.
2. WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, MINOR FIELD ADJUSTMENTS CAN AND WILL BE MADE TO INSURE THE CONTROL OF ANY SEDIMENT. CHANGES IN SEDIMENT CONTROL PRACTICES REQUIRE PRIOR APPROVAL OF THE SEDIMENT CONTROL INSPECTOR AND THE BALTIMORE COUNTY SOIL CONSERVATION DISTRICT.
3. AT THE END OF EACH WORKING DAY, ALL SEDIMENT CONTROL PRACTICES WILL BE INSPECTED AND LEFT IN OPERATIONAL CONDITION.
4. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:
   A. THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN THREE HORIZONTAL TO ONE VERTICAL (3:1), AND

   B. SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.
5. ANY CHANGE TO THE GRADING PROPOSED ON THIS PLAN REQUIRES RE-SUBMISSION TO BALTIMORE COUNTY SOIL CONSERVATION DISTRICT FOR APPROVAL.
6. DUST CONTROL WILL BE PROVIDED FOR ALL DISTURBED AREAS. REFER TO "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", PAGE H-22, FOR ACCEPTABLE METHODS AND SPECIFICATIONS FOR DUST CONTROL.
7. ANY VARIATIONS FROM THE SEQUENCE OF OPERATIONS STATED ON THIS PLAN REQUIRES THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR AND THE BALTIMORE COUNTY SOIL CONSERVATION DISTRICT PRIOR TO INITIATION OF THE CHANGE.
8. EXCESS CUT OR BORROW MATERIAL SHALL GO TO, OR COME FROM, RESPECTIVELY, A SITE WITH AN OPEN GRADING PERMIT AND APPROVED SEDIMENT CONTROL PLAN.
9. THE FOLLOWING ITEM MAY BE USED AS APPLICABLE: REFER TO "MARYLAND'S GUIDELINES TO WATERWAY CONSTRUCTION" BY THE WATER MANAGEMENT ADMINISTRATION OF THE MD. DEPT. OF THE ENVIRONMENT REVISED NOVEMBER, 2000 FOR STANDARD DETAILS AND DETAILED SPECIFICATIONS OF EACH PRACTICE SPECIFIED HEREIN FOR WATERWAY CONSTRUCTION.
10. PUMPING SEDIMENT LADEN WATER INTO WATERS OF THE STATE IS STRICTLY PROHIBITED. ANY PORTABLE DEWATERING DEVICE MUST BE LOCATED WITHIN THE LIMIT OF DISTURBANCE.
11. STORMWATER MANAGEMENT HAS BEEN ADDRESSED THROUGH STORMWATER MANAGEMENT VARIANCE.
12. CONTRACTOR TO PERFORM CONCRETE WASHOUT AT APPROVED OFF-SITE LOCATION.
13. THE PROPOSED GRADING SHOWN ON THIS PLAN MEETS THE REQUIREMENTS SET FORTH BY BALTIMORE COUNTY DEPS AND COMPLIES WITH ARTICLE 33, TITLE 5 OF THE BALTIMORE COUNTY CODE. HOWEVER, DUE TO BUILDINGS TYPES AND LAYOUT, SOME FIELD ADJUSTMENTS MAY BE REQUIRED. ALL CHANGES MUST COMPLY WITH THE ABOVE MENTIONED REQUIREMENTS.
14. ALL SWALES HAVE BEEN DESIGNED BY THE ENGINEER TO CONVEY RUNOFF ACCORDING TO BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS DESIGN STANDARDS.
15. THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION OR DISTURBANCE OF VEGETATION IN THE FOREST BUFFER EASEMENT OR OTHER FOREST RETENTION AREAS, EXCEPT AS PERMITTED BY THE BALTIMORE COUNTY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY.
16. STORMWATER MANAGEMENT HAS BEEN ADDRESSED THROUGH (NO FEE-IN-LIEU OR PAYMENT) STORMWATER MANAGEMENT VARIANCE.
17. AN ALTERNATIVES ANALYSIS WAS APPROVED ON AUGUST 25, 2021, BY THE BALTIMORE COUNTY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY FROM THE LAW FOR THE PROTECTION OF WATER QUALITY, STREAMS, WETLANDS AND FLOODPLAINS TO IMPACT 0.33 ACRES OF FOREST BUFFER INCLUDING 500 SQUARE FEET OF STREAM CHANNEL. CONDITIONS WERE PLACED ON THIS APPROVAL TO REDUCE IMPACTS TO WATER QUALITY INCLUDING RESTORATION OF TEMPORARILY DISTURBED BUFFER AREA AND OFFSITE RESTORATION.

E&S NOTES

1. ALL EXCAVATED MATERIAL NOT USED AS BACKFILL SHALL BE REMOVED FROM THE SITE BY DAYS END TO A SITE WITH AN OPEN GRADING PERMIT AND APPROVED SEDIMENT CONTROL PLAN.
2. THERE ARE NO WETLANDS OR THEIR BUFFERS BEING PERMANENTLY DISTURBED BY THIS WORK.
3. CONTRACTOR SHALL INSPECT AND MAINTAIN ALL SILT FENCE DAILY AND AFTER EACH STORM EVENT. MAINTENANCE SHALL INCLUDE, BUT NOT BE LIMITED TO, REMOVAL OF ALL ACCUMULATED SEDIMENT. GEOTEXTILE FABRIC SHALL BE REPLACED AS NEEDED TO ENSURE PROPER FUNCTION.
4. A MAJORITY OF THIS SITE IS LOCATED INSIDE OF ZONE X, AS SHOWN ON FIRM PANEL 220 OF 580, MAP NUMBER 24001002200.
5. CONTRACTOR'S ON-SITE STAGING AND MATERIAL STORAGE AREAS ARE LIMITED TO THE AREA WITHIN THE LIMIT OF DISTURBANCE. IF OFF-SITE STAGING OR MATERIAL STORAGE AREA IS NEEDED, THE CONTRACTOR SHALL PROVIDE AT NO ADDITIONAL COST TO THE COUNTY. CONTRACTOR IS RESPONSIBLE FOR ALL PERMITS.

UTILITY NOTES

1. CONTRACTOR SHALL OPEN ONLY THAT SECTION OF TRENCH THAT CAN BE BACKFILLED AND STABILIZED EACH DAY, IF THE TRENCH MUST REMAIN OPEN LONGER THAN ONE DAY, SILT FENCE SHALL BE PLACED BELOW (DOWN SLOPE OF) THE TRENCH.
2. PLACE ALL EXCAVATED MATERIAL ON THE UPHILL SIDE OF THE TRENCH.
3. ANY SEDIMENT CONTROLS DISTURBED BY UTILITY CONSTRUCTION ARE TO BE REPAIRED IMMEDIATELY.

DAILY STABILIZATION NOTE

1. CONTRACTOR SHALL ONLY DISTURB THAT AREA WHICH CAN BE COMPLETED AND STABILIZED BY THE END OF EACH WORKING DAY. STABILIZATION SHALL BE AS FOLLOWS:
   A. FOR AREAS TO BE PAVED, THE APPLICATION OF STONE BASE
   B. FOR AREAS BEING VEGETATIVELY STABILIZED:
      i. PERMANENT SEED AND MATTING FOR ALL STEEP SLOPES, CHANNELS OR SWALES.
      ii. PERMANENT SEED AND MULCH FOR ALL OTHER AREAS.
2. ANY AREAS WHICH CANNOT BE STABILIZED BY THE END OF EACH WORKING DAY MUST HAVE SILT FENCE INSTALLED ON THE DOWNSLOPE SIDE.

MAINTENANCE NOTE

1. CONTRACTOR SHALL INSPECT AND MAINTAIN ALL SEDIMENT CONTROL MEASURES AND DEVICES AFTER EVERY STORM EVENT. MAINTENANCE SHALL INCLUDE, BUT NOT BE LIMITED TO THE REMOVAL OF ALL ACCUMULATED SEDIMENT. GEOTEXTILE FABRIC SHALL BE REPLACED AS NEEDED TO ENSURE PROPER FUNCTION.

INLET PROTECTION NOTES

THE CONTRACTOR IS REQUIRED TO INSTALL INLET PROTECTION ON ALL STORM DRAIN INLETS WITH THE EXCEPTION OF THE FOLLOWING:
1) ANY INLET OUTFALLING DIRECTLY INTO A SEDIMENT TRAPPING DEVICE.
2) INLETS ON PRIVATE OR PUBLIC PAVED ROADWAYS OPEN TO THE PUBLIC

ALL INLET PROTECTION WILL BE INSTALLED AS DIRECTED BY THE INSPECTOR IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, PAGE E.23 (OR AS MAY BE AMENDED). THE REMOVAL OF ANY INLET PROTECTION DEVICES WILL REQUIRE APPROVAL FROM THE INSPECTOR.

*STORM DRAINS TO BE FLUSHED PRIOR TO TRAPPING DEVICE REMOVAL

B-4-2 STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

DEFINITION
THE PROCESS OF PREPARING THE SOILS TO SUSTAIN ADEQUATE VEGETATIVE STABILIZATION.

PURPOSE
TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.

CONDITIONS WHERE PRACTICE APPLIES
WHERE VEGETATIVE STABILIZATION IS TO BE ESTABLISHED.

CRITERIA

A. SOIL PREPARATION

1. TEMPORARY STABILIZATION
   a. SEEDBED PREPARATION CONSISTS OF LOOSENING SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT, SUCH AS DISC HARROWS OR CHISEL PLOWS OR RIPPERS MOUNTED ON CONSTRUCTION EQUIPMENT. AFTER THE SOIL IS LOOSENED, IT MUST NOT BE ROLLED OR DRAGGED SMOOTH BUT LEFT IN THE ROUGHENED CONDITION. SLOPES 3:1 OR FLATTER ARE TO BE TRACKED WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE.
   b. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.
   c. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.

2. PERMANENT STABILIZATION
   a. A SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE. THE MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE:
      I. SOIL PH BETWEEN 6.0 AND 7.0.
      II. SOLUBLE SALTS LESS THAN 500 PARTS PER MILLION (PPM).
      III. SOIL CONTAINS LESS THAN 40 PERCENT CLAY BUT ENOUGH FINE GRAINED MATERIAL (GREATER THAN 30 PERCENT SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION: IF LOVEGRASS WILL BE PLANTED, THEN A SANDY SOIL (LESS THAN 30 PERCENT SILT PLUS CLAY) WOULD BE ACCEPTABLE.
      IV. SOIL CONTAINS 1.5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT.
      V. SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.
   b. APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF ON-SITE SOILS DO NOT MEET THE ABOVE CONDITIONS.
   c. GRADED AREAS MUST BE MAINTAINED IN A TRUE AND EVEN GRADE AS SPECIFIED ON THE APPROVED PLAN, THEN SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3 TO 5 INCHES.
   d. APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS OF A SOIL TEST.
   e. MIX SOIL AMENDMENTS INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. RAKE LAWN AREAS TO SMOOTH THE SURFACE, REMOVE LARGE OBJECTS LIKE STONES AND BRANCHES, AND READY THE AREA FOR SEED APPLICATION. LOOSEN SURFACE SOIL BY DRAGGING WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO ROUGHEN THE SURFACE WHERE SITE CONDITIONS WILL NOT PERMIT NORMAL SEEDBED PREPARATION. TRACK SLOPES 3:1 OR FLATTER WITH TRACKED EQUIPMENT LEAVING THE SOIL IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE. LEAVE THE TOP 1 TO 3 INCHES OF SOIL LOOSE AND FRIABLE. SEEDBED LOOSENING MAY BE UNNECESSARY ON NEWLY DISTURBED AREAS.

B-4-2 STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS (CONT).

B. TOPSOILING

1. TOPSOIL IS PLACED OVER PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION. THE PURPOSE IS TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.
2. TOPSOIL SALVAGED FROM AN EXISTING SITE MAY BE USED PROVIDED IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-NRCS.
3. TOPSOILING IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:
   a. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
   b. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
   c. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
   d. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
4. AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.
5. TOPSOIL SPECIFICATIONS: SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:
   a. TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1½INCHES IN DIAMETER.
   b. TOPSOIL MUST BE FREE OF NOXIOUS PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACK GRASS, JOHNSON GRASS, NUT SEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.
   c. TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL.
6. TOPSOIL APPLICATION
   a. EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING TOPSOIL.
   b. UNIFORMLY DISTRIBUTE TOPSOIL IN A 5 TO 8 INCH LAYER AND LIGHTLY COMPACT TO A MINIMUM THICKNESS OF 4 INCHES. SPREADING IS TO BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOIL OR OTHER OPERATIONS MUST BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.
   c. TOPSOIL MUST NOT BE PLACED IF THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING B.14 AND SEEDBED PREPARATION.

C. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)

1. SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATION RATES FOR BOTH LIME AND FERTILIZER ON SITES HAVING DISTURBED AREAS OF 5 ACRES OR MORE. SOIL ANALYSIS MAY BE PERFORMED BY A RECOGNIZED PRIVATE OR COMMERCIAL LABORATORY. SOIL SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY ALSO BE USED FOR CHEMICAL ANALYSES.
2. FERTILIZERS MUST BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROPRIATE EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS MUST ALL BE DELIVERED TO THE SITE FULLY LABELED ACCORDING TO THE APPLICABLE LAWS AND MUST BEAR THE NAME, TRADE NAME OR TRADEMARK AND WARRANTY OF THE PRODUCER.
3. LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED EXCEPT WHEN HYDROSEEDING) WHICH CONTAINS AT LEAST 50 PERCENT TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE MUST BE GROUND TO SUCH FINENESS THAT AT LEAST 50 PERCENT WILL PASS THROUGH A #100 MESH SIEVE AND 98 TO 100 PERCENT WILL PASS THROUGH A #20 MESH SIEVE.
4. LIME AND FERTILIZER ARE TO BE EVENLY DISTRIBUTED AND INCORPORATED INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
5. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, SPREAD GROUND LIMESTONE AT THE RATE OF 4 TO 6 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL.

Baltimore County Soil Conservation District
APPROVED FOR SEDIMENT CONTROL
Jeffrey P. West
2-24-22
DATE

CONTRACT COMPLETION BOX	
CONTRACTOR:	
DATE COMPLETED:	
INSPECTOR:	
PIPE MATERIAL (Pressure Only)	

PRINTED ON: January 18, 2022 FILENAME: Q:\2012\120804_013_Reisterswood_Growth\CADD\E&S\ES-3.dwg

SEAL: STATE OF MARYLAND — JUSTIN M. HALL — 44100 — PROFESSIONAL ENGINEER
DATE: 1/20/2022

PROFESSIONAL CERTIFICATION	AS-BUILT / REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE	DPW AND TRANSPORTATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 44100, EXPIRATION DATE 6/10/2023				-			PLAN SCALE: N/A	SEE DRAWING 2021-2224 FOR ORIGINAL SIGNATURES
				R.O.W NO. -	TSW	49NW37	PROFILE SCALE: N/A	
CONTRACT COMPLETION BOX								

BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	BUR. OF ENGINEERING & CONSTRUCTION
REVIEWED BY: / DATE REVIEWED:	SEE DRAWING 2021-2224 FOR ORIGINAL SIGNATURES							SEE DRAWING 2021-2224 FOR ORIGINAL SIGNATURES

JMT — 40 WIGHT AVENUE | HUNT VALLEY, MD 21030 | P: (410) 329-3100 | F: (410) 472-2200 | www.jmt.com
DGN BY: ENW | DWN BY: GNA | CHKD BY: JMH

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION – BUREAU OF ENGINEERING & CONSTRUCTION

PROPOSED 8" SANITARY SEWER

REISTERSWOOD SEWER EXTENSION – CEDARMERE CIRCLE

EROSION AND SEDIMENT CONTROL GENERAL NOTES AND SEQUENCE

SUBDIVISION: REISTERSWOOD — ELECTION DIST. NO.: 4c4

BALTIMORE COUNTY MARYLAND

SHEET DESIGNATION	CONTRACT NUMBER
ES-3	21240 SX0
JOB ORDER NUMBER	231-201-0077-7270
SHEET 4 OF 12	DRAWING NUMBER 2021-2227
FILE NO.: 1	REV. 4/19

B-4-3 STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING

DEFINITION
THE APPLICATION OF SEED AND MULCH TO ESTABLISH VEGETATIVE COVER.

PURPOSE
TO PROTECT DISTURBED SOILS FROM EROSION DURING AND AT THE END OF CONSTRUCTION.

CONDITIONS WHERE PRACTICE APPLIES
TO THE SURFACE OF ALL PERIMETER CONTROLS, SLOPES AND ANY DISTURBED AREA NOT UNDER ACTIVE GRADING.

CRITERIA

A. SEEDING

1. SPECIFICATIONS
   a. ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW. ALL SEED MUST BE SUBJECT TO RE-TESTING BY A RECOGNIZED SEED LABORATORY. ALL SEED USED MUST HAVE BEEN TESTED WITHIN THE 6 MONTHS IMMEDIATELY PRECEDING THE DATE OF SOWING SUCH MATERIAL ON ANY PROJECT. REFER TO TABLE B.4 REGARDING THE QUALITY OF SEED. SEED TAGS MUST BE AVAILABLE UPON REQUEST TO THE INSPECTOR TO VERIFY TYPE OFcp SEED AND SEEDING RATE.
   b. MULCH ALONE MAY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES ONLY IF THE GROUND IS FROZEN. THE APPROPRIATE SEEDING MIXTURE MUST BE APPLIED WHEN THE GROUND THAWS.
   c. INOCULANTS: THE INOCULANT FOR TREATING LEGUME SEED IN THE SEED MIXTURES MUST BE A PURE CULTURE OF NITROGEN FIXING BACTERIA PREPARED SPECIFICALLY FOR THE SPECIES. INOCULANTS MUST NOT BE USED LATER THAN THE DATE INDICATED ON THE CONTAINER. ADD FRESH INOCULANTS AS DIRECTED ON THE PACKAGE. USE FOUR TIMES THE RECOMMENDED RATE WHEN HYDROSEEDING. NOTE: IT IS VERY IMPORTANT TO KEEP INOCULANT AS COOL AS POSSIBLE UNTIL USED. TEMPERATURES ABOVE 75 TO 80 DEGREES FAHRENHEIT CAN WEAKEN BACTERIA AND MAKE THE INOCULANT LESS EFFECTIVE.
   d. SOD OR SEED MUST NOT BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICAL USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS, MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIAL.

2. APPLICATION
   a. DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS.
      i. INCORPORATE SEED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON TEMPORARY SEEDING TABLE B.1, PERMANENT SEEDING TABLE B.3, OR SITE-SEPTIC SEEDING SUMMARIES.
      ii. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION. ROLL THE SEEDED AREA WITH A WEIGHTED ROLLER TO PROVIDE GOOD SEED TO SOIL CONTACT.
   b. DRILL OR CULTIPACKER SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL.
      i. CULTIPACKING SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEAST ½" OF SOIL COVERING. SEEDBED MUST BE FIRM AFTER PLANTING.
      ii. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION.
   c. HYDROSEEDING: APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDE SEED AND FERTILIZER).
      i. IF FERTILIZING IS BEING APPLIED AT THE TIME OF SEEDING, THE APPLICATION RATES SHOULD NOT EXCEED THE FOLLOWING: NITROGEN, 100 POUNDS PER ACRE TOTAL OF SOLUBLE NITROGEN; P205 (PHOSPHOROUS), 200 POUNDS PER ACRE; K20 (POTASSIUM), 200 POUNDS PER ACRE.
      ii. LIME: USE ONLY GROUND AGRICULTURAL LIMESTONE (UP TO 3 TONS PER ACRE MAY BE APPLIED BY HYDROSEEDING), NORMALLY, NOT MORE THAN 2 TONS ARE APPLIED BY HYDROSEEDING AT ANY ONE TIME. DO NOT USE BURNT OR HYDRATED LIME WHEN HYDROSEEDING.
      iii. MIX SEED AND FERTILIZER ON SITE AND SEED IMMEDIATELY AND WITHOUT INTERRUPTION.
      iv. WHEN HYDROSEEDING DO NOT INCORPORATE SEED INTO THE SOIL.

B. MULCHING

1. MULCH MATERIALS (IN ORDER OF PREFERENCE)
   a. STRAW CONSISTING OF THOROUGHLY THRESHED WHEAT, RYE, OAT, OR BARLEY AND REASONABLE BRIGHT IN COLOR. STRAW IS TO BE FREE OF NOXIOUS WEEDS SEEDS AS SPECIFIED IN THE MARYLAND SEED LAW AND NOT MUSTY, MOLDY, CAKED, DECAYED, OR EXCESSIVELY DUSTY. NOTE: USE ONLY STERILE STRAW MULCH IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED.
   b. WOOD CELLULOSE FIBER MULCH (WCFM) CONSISTING OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE.
      i. WCFM IS TO BE DYED GREEN OR CONTAIN A GREEN DYE IN THE PACKAGE THAT WILL PROVIDE AN APPROPRIATE COLOR TO FACILITATE VISUAL INSPECTION OF THE UNIFORMLY SPREAD SLURRY.
      ii. WCFM, INCLUDING DYE, MUST CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS.
      iii. WCFM MATERIALS ARE TO BE MANUFACTURED AND PROCESSED IN SUCH A MANNER THAT THE WOOD CELLULOSE FIBER MULCH WILL REMAIN IN UNIFORM SUSPENSION IN WATER UNDER AGITATION AND WILL BLEND WITH SEED, FERTILIZER AND OTHER ADDITIVES TO FORM A HOMOGENEOUS SLURRY. THE MULCH MATERIAL MUST FORM A BLOTTER-LIKE GROUND COVER, ON APPLICATION, HAVING MOISTURE ABSORPTION AND PERCOLATION PROPERTIES AND MUST COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL WITHOUT INHIBITING THE GROWTH OF THE GRASS SEEDLINGS.
      iv. WCFM MATERIAL MUST NOT CONTAIN ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BE PHYTO-TOXIC.
      vi. WCFM MUST CONFIRM TO THE FOLLOWING PHYSICAL REQUIREMENTS: FIBER LENGTH OF APPROXIMATELY 10 MILLIMETERS, DIAMETER APPROXIMATELY 1 MILLIMETER, pH RANGE OF 4.0 TO 8.5, ASH CONTENT OF 1.6 PERCENT MAXIMUM AND WATER HOLDING CAPACITY OF 90 PERCENT MINIMUM CONTACT.

2. APPLICATION
   a. APPLY MULCH TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING.
   b. WHEN STRAW MULCH IS USED, SPREAD IT OVER ALL SEEDED AREAS AT THE RATE OF 2 TONS PER ACRE TO A UNIFORM LOOSE DEPTH OF 1 TO 2 INCHES. APPLY MULCH TO ACHIEVE A UNIFORM DISTRIBUTION AND DEPTH SO THAT THE SOIL SURFACE IS NOT EXPOSED. WHEN USING A MULCH ANCHORING TOOL, INCREASE THE APPLICATION RATE TO 2.5 TONS PER ACRE.
   c. WOOD CELLULOSE FIBER USED AS MULCH MUST BE APPLIED AT A NET DRY WEIGHT OF 1500 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER TO ATTAIN A MIXTURE WITH A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.

B-4-3 STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING (CONT)

3. ANCHORING
   a. PERFORM MULCH ANCHORING IMMEDIATELY FOLLOWING APPLICATION OF MULCH TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS (LISTED BY PREFERENCE), DEPENDING UPON THE SIZE OF THE AREA AND EROSION HAZARD:
      i. A MULCH ANCHORING TOOL IS A TRACTOR DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE A MINIMUM OF 2 INCHES. THIS PRACTICE IS MOST EFFECTIVE ON LARGE AREAS, BUT IS LIMITED TO FLATTER SLOPES WHERE EQUIPMENT CAN OPERATE SAFELY. IF USED ON SLOPING LAND, THIS PRACTICE SHOULD FOLLOW THE CONTOUR.
      ii. WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. APPLY THE FIBER BINDER AT A NET DRY WEIGHT OF 750 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER AT A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.
      iii. SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (ARGO-TACK), DCA-70, PETROSET, TERRA TAX II, TERRA TACK AR OR OTHER APPROVED EQUAL MAY BE USED. FOLLOW APPLICATION RATES AS SPECIFIED BY THE MANUFACTURER. APPLICATION OF LIQUID NEEDS TO BE HEAVIER AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS. USE OF ASPHALT BINDERS IS STRICTLY PROHIBITED.
      iv. LIGHTWEIGHT PLASTICS NETTING MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER RECOMMENDATIONS. NETTING IS USUALLY AVAILABLE IN ROLLS 4 TO 15 FEET WIDE AND 300 TO 3,000 FEET LONG.

B-4-4 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

DEFINITION
TO STABILIZE DISTURBED SOILS WITH VEGETATION FOR UP TO 6 MONTHS

PURPOSE
TO USE FAST GROWING VEGETATION THAT PROVIDES COVER ON DISTURBED SOILS.

CONDITIONS WHERE PRACTICE APPLIES
EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR A PERIOD OF 6 MONTHS OR LESS. FOR LONGER DURATION OF TIME, PERMANENT STABILIZATION PRACTICES ARE REQUIRED.

CRITERIA
1. SELECT ONE OR MORE OF THE SPECIES OR SEED MIXTURES LISTED IN TABLE B.1 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3), AND ENTER THEM IN THE TEMPORARY SEEDING SUMMARY BELOW ALONG WITH APPLICATION RATES, SEEDING DATES AND SEEDING DEPTHS. IF THIS SUMMARY IS NOT PUT ON THE PLAN AND COMPLETED, THEN TABLE B.1 PLUS FERTILIZER AND LIME RATES MUST BE PUT ON THE PLAN.
2. FOR SITES HAVING SOIL TEST PERFORMED, USE AND SHOW THE RECOMMENDED RATES BY THE TESTING AGENCY. SOIL TESTS ARE NOT REQUIRED FOR TEMPORARY SEEDING.
3. WHEN STABILIZATION IS REQUIRED OUTSIDE OF A SEEDING SEASON, APPLY SEED AND MULCH OR STRAW MULCH ALONE AS PRESCRIBED IN SECTION B-4-3.A.1.b AND MAINTAIN UNTIL THE NEXT SEEDING SEASON.

TEMPORARY SEEDING SUMMARY

HARDINESS ZONE (FROM FIGURE B.3): 7A SEED MIXTURE (FROM TABLE B.1):					FERTILIZER RATE (10-20-20)	LIME RATE
NO.	SPECIES	APPLICATION RATE (lb/ac)	SEEDING DATES	SEEDING DEPTHS		
	ANNUAL RYEGRASS	40 LB/ACRE	2/15 - 4/30 8/15 - 11/30	1/2"	436 LB/AC (10 LB/1000 SF)	2 TONS/AC (90 LB/1000 SF)
	FOXTAIL MILLET	30 LB/ACRE	5/1 - 8/14	1/2"		

B-4-5 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

DEFINITION
TO STABILIZE DISTURBED SOILS WITH PERMANENT VEGETATION.

PURPOSE
TO USE LONG-LIVED PERENNIAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT GROUND COVER ON DISTURBED SOILS.

CONDITIONS WHERE PRACTICE APPLIES
EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR 6 MONTHS OR MORE.

CRITERIA

A. SEED MIXTURES

1. GENERAL USE
   a. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE B.3 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3) AND BASED ON THE SITE CONDITION OR PURPOSE FOUND ON TABLE B.2. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.
   b. ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINES, STREAM BANKS, OR DUNES OR FOR SPECIAL PURPOSES SUCH AS WILDLIFE OR AESTHETIC TREATMENT MAY BE FOUND IN USDA-NRCS TECHNICAL FIELD OFFICE GUIDE, SECTION 342 - CRITICAL AREA PLANTING.
   c. FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, USE AND SHOW THE RATES RECOMMENDED BY THE SOIL TESTING AGENCY.
   d. FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREA FORM FERTILIZER (46-0-0) AT 3 ½ POUNDS PER 1000 SQUARE FEET (150 POUNDS PER ACRE) AT THE TIME OF SEEDING IN ADDITION TO THE SOIL AMENDMENTS SHOWN IN THE PERMANENT SEEDING SUMMARY.

2. TURFGRASS MIXTURES
   a. AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE.
   b. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED BELOW BASED ON THE SITE CONDITIONS OR PURPOSE. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.
      i. KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN AREAS THAT RECEIVE INTENSIVE MANAGEMENT. IRRIGATION REQUIRED IN THE AREAS OF CENTRAL MARYLAND AND EASTERN SHORE. RECOMMENDED CERTIFIED KENTUCKY BLUEGRASS CULTIVARS SEEDING RATE: 1.5 TO 2.0 POUNDS PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.

B-4-5 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION (CONT)

   ii. KENTUCKY BLUEGRASS/PERENNIAL RYE: FULL SUN MIXTURE: FOR USE IN FULL SUN AREAS WHERE RAPID ESTABLISHMENT IS NECESSARY AND WHEN TURF WILL RECEIVE MEDIUM TO INTENSIVE MANAGEMENT. CERTIFIED PERENNIAL RYEGRASS CULTIVARS/CERTIFIED KENTUCKY BLUEGRASS SEEDING RATE: 2 POUNDS MIXTURE PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.
   iii. TALL FESCUE/KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN DROUGHT PRONE AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM MANAGEMENT IN FULL SUN TO MEDIUM SHADE. RECOMMENDED MIXTURE INCLUDES; CERTIFIED TALL FESCUE CULTIVARS 95 TO 100 PERCENT, CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 0 TO 5 PERCENT. SEEDING RATE: 5 TO 8 POUNDS PER 1000 SQUARE FEET. ONE OR MORE CULTIVARS MAY BE BLENDED.
   iv. KENTUCKY BLUEGRASS/FINE FESCUE: SHADE MIXTURE: FOR USE IN AREAS WITH SHADE IN BLUEGRASS LAWNS. FOR ESTABLISHMENT IN HIGH QUALITY, INTENSIVELY MANAGED TURF AREA. MIXTURE INCLUDES; CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 30 TO 40 PERCENT AND CERTIFIED FINE FESCUE AND 60 TO 70 PERCENT. SEEDING RATE: 1½ TO 3 POUNDS PER 1000 SQUARE FEET.

   NOTES:
   SELECT TURFGRASS VARIETIES FROM THOSE LISTED IN THE MOST CURRENT UNIVERSITY OF MARYLAND PUBLICATION, AGRONOMY MEMO #77, "TURFGRASS CULTIVAR RECOMMENDATIONS FOR MARYLAND."

   CHOOSE CERTIFIED MATERIAL. CERTIFIED MATERIAL IS THE BEST GUARANTEE OF CULTIVAR PURITY. THE CERTIFICATION PROGRAM OF THE MARYLAND DEPARTMENT OF AGRICULTURE, TURF AND SEED SECTION, PROVIDES A RELIABLE MEANS OF CONSUMER PROTECTION AND ASSURES A PURE GENETIC LINE.

   a. DEAL TIMES OF SEEDING FOR TURF GRASS MIXTURES
      WESTERN MD: MARCH 15 TO JUNE 1, AUGUST 1 TO OCTOBER 1 (HARDINESS ZONES: 5B, 6A)
      CENTRAL MD: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONE: 6B)
      SOUTHERN MD, EASTERN SHORE: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONES: 7A, 7B)
   b. TILL AREAS TO RECEIVE SEED BY DISKING OR OTHER APPROVED METHODS TO A DEPTH OF 2 TO 4 INCHES, LEVEL AND RAKE THE AREAS TO PREPARE A PROPER SEEDBED. REMOVE STONES AND DEBRIS OVER 1½ INCHES IN DIAMETER. THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOWING OF GRASSES WILL POSE NO DIFFICULTY.
   c. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH (½ TO 1 INCH EVERY 3 TO 4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FIRMLY ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN ABNORMALLY DRY OR HOT SEASONS, OR ON ADVERSE SITES.

PERMANENT SEEDING SUMMARY

HARDINESS ZONE (FROM FIGURE B.3): 7A SEED MIXTURE (FROM TABLE B.3):					FERTILIZER RATE (10-20-20)			LIME RATE
NO.	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES*	SEEDING DEPTHS	N	P2Os	K2O	
3	REDTOP	1	2/15-5/31	1/4- 1/2 INCH	45 LB/AC (1.0 LB/1000SF)	90 LB/AC (2 LB/1000SF)	90 LB/AC (2 LB/1000SF)	2 TONS/AC (90 LB/1000SF)
	COMMON LESPEDEZA	10	2/15-5/31	1/4- 1/2 INCH				
	CANADIAN WILD RYE	3	2/15-5/31	1/4- 1/2 INCH				
	DEERTONGUE	20	2/15-5/31	1/4- 1/2 INCH				
6	TALL FESCUE	40	2/15-4/30 8/15-10/31	1/4- 1/2 INCH	45 LB/AC (1.0 LB/1000SF)	90 LB/AC (2 LB/1000SF)	90 LB/AC (2 LB/1000SF)	2 TONS/AC (90 LB/1000SF)
	WHITE CLOVER	5	2/15-4/30 8/15-10/31	1/4- 1/2 INCH				
	PERENNIAL RYEGRASS	25	2/15-4/30 8/15-10/31	1/4- 1/2 INCH				

*FOR DATES 5/1-8/14 ADD 3.5 LBS/AC OF FOXTAIL MILLET OR PEARL MILLET TO PERMANENT SEEDING MIX #6 ABOVE.

B-4-5 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION (CONT.)

B. SOD: TO PROVIDE QUICK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER).

1. GENERAL SPECIFICATIONS
   a. CLASS OF TURFGRASS SOD MUST BE MARYLAND STATE CERTIFIED. SOD LABELS MUST BE MADE AVAILABLE TO THE JOB FOREMAN AND INSPECTOR.
   b. SOD MUST BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF ¾ INCH, PLUS OR MINUS ¼ INCH, AT THE TIME OF CUTTING. MEASUREMENT FOR THICKNESS MUST EXCLUDE TOP GROWTH AND THATCH. BROKEN PADS AND TORN OR UNEVEN ENDS WILL NOT BE ACCEPTABLE.
   c. STANDARD SIZE SECTIONS OF SOD MUST BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP ON THE UPPER 10 PERCENT OF THE SECTION.
   d. SOD MUST NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OR WET) MAY ADVERSELY AFFECT ITS SURVIVAL.
   e. SOD MUST BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS. SOD NOT TRANSPLANTED WITHIN THIS PERIOD MUST BE APPROVED BY AN AGRONOMIST OR SOIL SCIENTIST PRIOR TO ITS INSTALLATION.

2. SOD INSTALLATION
   a. DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SUBSOIL, LIGHTLY IRRIGATE THE SUBSOIL IMMEDIATELY PRIOR TO LAYING THE SOD.
   b. LAY THE FIRST ROW OF SOD IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO IT AND TIGHTLY WEDGED AGAINST EACH OTHER. STAGGER LATERAL JOINTS TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE AIR DRYING OF THE ROOTS.
   c. WHEREVER POSSIBLE, LAY SOD WITH THE LONG EDGES PARALLEL TO THE CONTOUR AND WITH STAGGERING JOINTS. ROLL AND TAMP, PEG OR OTHERWISE SECURE THE SOD TO PREVENT SLIPPAGE ON SLOPES. ENSURE SOLID CONTACT EXISTS BETWEEN SOD ROOTS AND THE UNDERLYING SOIL SURFACE.
   d. WATER THE SOD IMMEDIATELY FOLLOWING ROLLING AND TAMPING UNTIL THE UNDERSIDE OF THE NEW SOD PAD AND SOIL SURFACE BELOW THE SOD ARE THOROUGHLY WET. COMPLETE THE OPERATIONS OF LAYING, TAMPING AND IRRIGATING FOR ANY PIECE OF SOD WITHIN EIGHT HOURS.

3. SOD MAINTENANCE
   a. IN THE ABSENCE OF ADEQUATE RAINFALL, WATER DAILY DURING THE FIRST WEEK OR AS OFTEN AND SUFFICIENTLY AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF 4 INCHES. WATER SOD DURING THE HEAT OF THE DAY TO PREVENT WILTING.
   b. AFTER THE FIRST WEEK, SOD WATERING IS REQUIRED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE CONTENT.
   c. DO NOT MOW UNTIL THE SOD IS FIRMLY ROOTED. NO MORE THAN ⅓ OF THE GRASS LEAF MUST BE REMOVED BY THE INITIAL CUTTING OR SUBSEQUENT CUTTINGS. MAINTAIN A GRASS HEIGHT OF AT LEAST 3 INCHES UNLESS OTHERWISE SPECIFIED.

Baltimore County Soil Conservation District
APPROVED FOR SEDIMENT CONTROL
Jeffrey P. Wood 2-24-22 DATE

CONTRACT COMPLETION BOX
CONTRACTOR:
DATE COMPLETED:
INSPECTOR:
PIPE MATERIAL (Pressure Only)

PRINTED ON: January 14, 2022 FILENAME: Q:\2012\120804_013_Reisterswood_Growth\CADD\EAS\ES-4.dwg

SEAL: STATE OF MARYLAND — JUSTIN M. GNA — 44100 — PROFESSIONAL ENGINEER — DATE: 2/1/2022

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 44100, EXPIRATION DATE 6/10/2023

JMT
40 WIGHT AVENUE | HUNT VALLEY, MD 21030
P: (410) 329-3100 | F: (410) 472-2200 | www.jmt.com

DGN BY: ENW
DWN BY: GNA
CHKD BY: JMH

AS-BUILT / REVISION	BY	DATE
CONTRACT COMPLETION BOX		

P.W.A. NO.	KEY SHEET	POSITION SHT
-	TSW	49NW37
R.O.W NO.		
-		

DRAWING SCALE: PLAN SCALE: N/A; PROFILE SCALE: N/A; HORIZ. SCALE: N/A; VERT. SCALE: N/A

BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:	SEE DRAWING 2021-2224 FOR ORIGINAL SIGNATURES						
DATE REVIEWED:							

DPW AND TRANSPORTATION: SEE DRAWING 2021-2224 FOR ORIGINAL SIGNATURES
BUR. OF ENGINEERING & CONSTRUCTION: SEE DRAWING 2021-2224 FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION - BUREAU OF ENGINEERING & CONSTRUCTION

PROPOSED 8" SANITARY SEWER

REISTERSWOOD SEWER EXTENSION - CEDARMERE CIRCLE

EROSION AND SEDIMENT CONTROL SEEDING SPECIFICATIONS

SUBDIVISION: REISTERSWOOD
ELECTION DIST. NO.: 4c4

BALTIMORE COUNTY MARYLAND

SHEET DESIGNATION	CONTRACT NUMBER
ES-4	21240 SX0
JOB ORDER NUMBER	231-201-0077-7270
SHEET 5 OF 12	
DRAWING NUMBER	2021-2228
FILE NO.: 1	REV. 6/19

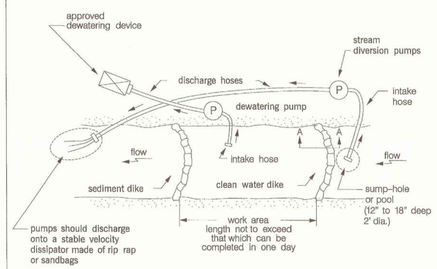
BEST MANAGEMENT PRACTICES FOR WORKING IN NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, AND 100–YEAR FLOODPLAINS

1. NO EXCESS FILL, CONSTRUCTION MATERIAL, OR DEBRIS SHALL BE STOCKPILED OR STORED IN NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100–YEAR FLOODPLAIN.
2. PLACE MATERIALS IN A LOCATION AND MANNER WHICH DOES NOT ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100–YEAR FLOODPLAIN.
3. DO NOT USE THE EXCAVATED MATERIAL AS BACKFILL IF IT CONTAINS WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE. IF ADDITIONAL BACKFILL IS REQUIRED, USE CLEAN MATERIAL FREE OF WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE.
4. EXCAVATED MATERIAL FROM NON–TIDAL WETLANDS SHALL BE SORTED INTO TOPSOIL AND SUBSOIL. STOCKPILE THE TOPSOIL AND SUBSOIL IN SEPARATE PILES. TOPSOIL SHALL BE SET ASIDE ON A SHEET FOR LATER PLACEMENT BACK INTO THE WETLAND AS THE LAST LAYER OVER THE TRENCH. STOCKPILE SHALL BE PROTECTED TO PREVENT ESCAPE OF MATERIAL BEFORE REPLACEMENT BACK INTO THE WETLAND.
5. PLACE HEAVY EQUIPMENT ON MATS OR SUITABLY OPERATE THE EQUIPMENT TO PREVENT DAMAGE TO NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100–YEAR FLOODPLAIN.
6. REPAIR AND MAINTAIN ANY SERVICEABLE STRUCTURE OR FILL SO THERE IS NO PERMANENT LOSS OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, OR WATERWAYS, OR PERMANENT MODIFICATION OF THE 100–YEAR FLOODPLAIN IN EXCESS OF THAT LOST UNDER THE ORIGINALLY AUTHORIZED STRUCTURE OR FILL.
7. RECTIFY ANY NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100–YEAR FLOODPLAIN TEMPORARILY IMPACTED BY ANY CONSTRUCTION.
8. ALL STABILIZATION IN THE NONTIDAL WETLAND AND NONTIDAL WETLAND BUFFER SHALL CONSIST OF THE FOLLOWING SPECIES: ANNUAL RYEGRASS (LOLIUM MULTIFLORUM), MILLET (SETARIA ITALICA), BARLEY (HORDEUM SP.), OATS (UNIOLA SP.), AND/OR RYE (SECALE CEREALE). THESE SPECIES WILL ALLOW FOR STABILIZATION OF THE SITE WHILE ALSO ALLOWING FOR THE VOLUNTARY REVEGETATION OF NATURAL WETLAND SPECIES. OTHER NON–PERSISTENT VEGETATION MAY BE ACCEPTABLE, BUT MUST BE APPROVED BY THE NONTIDAL WETLANDS AND WATERWAYS DIVISION. KENTUCKY 31 FESCUE SHALL NOT BE UTILIZED IN WETLAND OR BUFFER AREAS. THE AREA SHOULD BE SEEDED AND MULCHED TO REDUCE EROSION AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED.
9. AFTER INSTALLATION HAS BEEN COMPLETED, MAKE POST–CONSTRUCTION GRADES AND ELEVATION THE SAME AS THE ORIGINAL GRADES AND ELEVATIONS IN TEMPORARILY IMPACTED AREAS.
10. TO PROTECT AQUATIC SPECIES, IN–STREAM WORK IS PROHIBITED AS DETERMINED BY CLASSIFICATION OF THE STREAM:

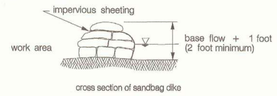
    USE III WATERS: IN–STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD OF OCTOBER 1 THROUGH APRIL 30, INCLUSIVE DURING ANY YEAR.
11. STORMWATER RUNOFF FROM IMPERVIOUS SURFACES SHALL BE CONTROLLED TO PREVENT THE WASHING OF DEBRIS INTO THE WATERWAY.
12. CULVERTS SHALL BE CONSTRUCTED AND ANY RIPRAP PLACED SO AS NOT TO OBSTRUCT THE MOVEMENT OF THE AQUATIC SPECIES, UNLESS THE PURPOSE OF THE ACTIVITY IS TO IMPOUND WATER.

Maryland's Guidelines To Waterway Construction
DETAIL 1.2: PUMP–AROUND PRACTICE

PLAN VIEW



SECTION A–A

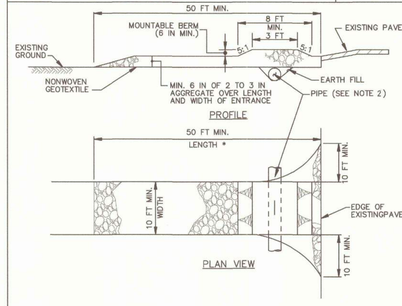


cross section of sandbag dike

TEMPORARY INSTREAM CONSTRUCTION MEASURES	*REVISED NOVEMBER 2000 PAGE 1.2 - 4*	MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE

STANDARD SYMBOL: SCE



CONSTRUCTION SPECIFICATIONS

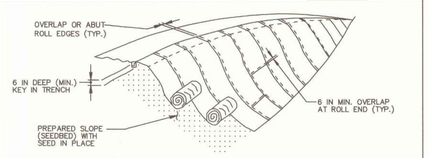
1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
2. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.
3. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H–1 MATERIALS.
4. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.
5. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL B-4-6-B TEMPORARY SOIL STABILIZATION MATTING SLOPE APPLICATION

STANDARD SYMBOL: TSSMS 2.0 lb/ft² (* INCLUDE SHEAR STRESS)



ISOMETRIC VIEW

CONSTRUCTION SPECIFICATIONS

1. USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.
2. USE TEMPORARY SOIL STABILIZATION MATTING MADE OF DEGRADABLE (LASTS 6 MONTHS MINIMUM) NATURAL OR MAN–MADE FIBERS (MOSTLY ORGANIC). MAT MUST HAVE UNIFORM THICKNESS AND DISTRIBUTION OF FIBERS THROUGHOUT AND BE SMOLDER RESISTANT. CHEMICALS USED IN THE MAT MUST BE NON–LEACHING AND NON–TOXIC TO VEGETATION AND SEED GERMINATION AND NON–INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.
3. SECURE MATTING USING STEEL STAPLES, WOOD STAKES, OR BIODEGRADABLE EQUIVALENT. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1½ INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND A MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH–SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPED AT THE BOTTOM.
4. PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS UNLESS END OF WORKDAY STABLIZATION IS SPECIFIED ON THE APPROVED EROSION & SEDIMENT CONTROL PLAN.
5. UNROLL MATTING DOWNSLOPE. LAY MAT SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.
6. OVERLAP OR ABUT ROLL EDGES PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSLOPE MAT OVERLAPPING ON TOP OF THE DOWNSLOPE MAT.
7. KEY IN THE UPSLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.
8. STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.
9. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B–4 VEGETATIVE STABILIZATION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

MGWC 1.2: PUMP–AROUND PRACTICE

Temporary measure for dewatering in-channel construction sites

DESCRIPTION

The work should consist of installing a temporary pump around and supporting measures to divert flow around in-stream construction sites.

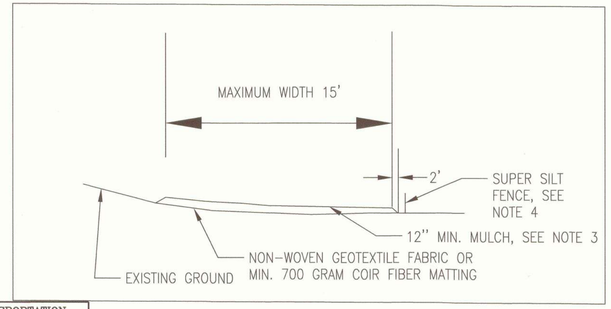
IMPLEMENTATION SEQUENCE

Sediment control measures, pump-around practices, and associated channel and bank construction should be completed in the following sequence (refer to Detail 1.2):

1. Construction activities including the installation of erosion and sediment control measures should not begin until all necessary easements and/or right-of-ways have been acquired. All existing utilities should be marked in the field prior to construction. The contractor is responsible for any damage to existing utilities that may result from construction and should repair the damage at his/her own expense to the county's or utility company's satisfaction.
2. The contractor should notify the Maryland Department of the Environment or WMA sediment control inspector at least 5 days before beginning construction. Additionally, the contractor should inform the local environmental protection and resource management inspection and enforcement division and the provider of local utilities a minimum of 48 hours before starting construction.
3. The contractor should conduct a pre-construction meeting on site with the WMA sediment control inspector, the county project manager, and the engineer to review limits of disturbance, erosion and sediment control requirements, and the sequence of construction. The contractor should stake out all limits of disturbance prior to the pre-construction meeting so they may be reviewed. The participants will also designate the contractor's staging areas and flag all trees within the limit of disturbance which will be removed for construction access. Trees should not be removed within the limit of disturbance without approval from the WMA or local authority.
4. Construction should not begin until all sediment and erosion control measures have been installed and approved by the engineer and the sediment control inspector. The contractor should stay within the limits of the disturbance as shown on the plans and minimize disturbance within the work area whenever possible.
5. Upon installation of all sediment control measures and approval by the sediment control inspector and the local environmental protection and resource management inspection and enforcement division, the contractor should begin work at the upstream section and proceed downstream beginning with the establishment of stabilized construction entrances. In some cases, work may begin downstream if appropriate. The sequence of construction must be followed unless the contractor gets written approval for deviations from the WMA or local authority. The contractor should only begin work in an area which can be completed by the end of the day including grading adjacent to the channel. At the end of each work day, the work area must be stabilized and the pump around removed from the channel. Work should not be conducted in the channel during rain events.
6. Sandbag dikes should be situated at the upstream and downstream ends of the work area as shown on the plans, and stream flow should be pumped around the work area. The pump should discharge onto a stable velocity dissipater made of riprap or sandbags.

MGWC 1.2: PUMP–AROUND PRACTICE

7. Water from the work area should be pumped to a sediment filtering measure such as a dewatering basin, sediment bag, or other approved source. The measure should be located such that the water drains back into the channel below the downstream sandbag dike.
8. Traversing a channel reach with equipment within the work area where no work is proposed should be avoided. If equipment has to traverse such a reach for access to another area, then timber mats or similar measures should be used to minimize disturbance to the channel. Temporary stream crossings should be used only when necessary and only where noted on the plans or specified. (*See Section 4, Stream Crossings, Maryland Guidelines to Waterway Construction*).
9. All stream restoration measures should be installed as indicated by the plans and all banks graded in accordance with the grading plans and typical cross- sections. All grading must be stabilized at the end of each day with seed and mulch or seed and matting as specified on the plans.
10. After an area is completed and stabilized, the clean water dike should be removed. After the first sediment flush, a new clean water dike should be established upstream from the old sediment dike. Finally, upon establishment of a new sediment dike below the old one, the old sediment dike should be removed.
11. A pump around must be installed on any tributary or storm drain outfall which contributes baseflow to the work area. This should be accomplished by locating a sandbag dike at the downstream end of the tributary or storm drain outfall and pumping the stream flow around the work area. This water should discharge onto the same velocity dissipater used for the main stem pump around.
12. If a tributary is to be restored, construction should take place on the tributary before work on the main stem reaches the tributary confluence. Construction in the tributary, including pump around practices, should follow the same sequence as for the main stem of the river or stream. When construction on the tributary is completed, work on the main stem should resume. Water from the tributary should continue to be pumped around the work area in the main stem.
13. The contractor is responsible for providing access to and maintaining all erosion and sediment control devices until the sediment control inspector approves their removal.
14. After construction, all disturbed areas should be regraded and revegetated as per the planting plan.



TYPE 1 TEMPORARY ACCESS ROAD

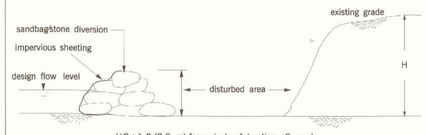
SCALE: NOT TO SCALE

NOTES:

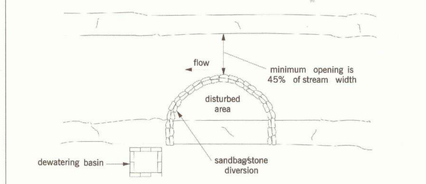
1. TYPE 1 TEMPORARY ACCESS ROADS SHALL BE INSTALLED AS LOCATED ON SHEETS ES–1 THROUGH ES–2.
2. TYPE 1 TEMPORARY ACCESS ROADS SHALL BE CONSTRUCTED AS SHOWN IN THE DETAIL AND AS SPECIFIED IN THE CONTRACT DOCUMENTS.
3. MULCH SHALL CONSIST OF WOOD CHIPS OR CLEAN SHREDDED HARDWOOD MULCH.
4. CONTRACTOR SHALL INSTALL SUPER SILT FENCE ON THE DOWNSTREAM SIDE OF THE ACCESS ROAD.

Maryland's Guidelines To Waterway Construction
DETAIL 1.5: SANDBAG/STONE DIVERSION

TRANSVERSE SECTION VIEW



PLAN VIEW



TEMPORARY INSTREAM CONSTRUCTION MEASURES	*REVISED NOVEMBER 2000 PAGE 1.5 - 3*	MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

MGWC 1.5: SANDBAG/STONE CHANNEL DIVERSION

Temporary measure for dewatering in-channel construction sites

DESCRIPTION

The work should consist of installing sandbag or stone flow diversions for the purpose of erosion control when construction activities occur within the stream channel.

EFFECTIVE USES & LIMITATIONS

Diversions are used to isolate work areas from flow during the construction of in-stream projects. Diversions which have an insufficient flow capacity can fail and severely erode the disturbed channel section under construction. Therefore, in-channel construction activities should occur only during periods of low rainfall. This temporary measure may not be practical in large channels.

MATERIAL SPECIFICATIONS

Materials for sandbag and stone stream diversions should meet the following requirements:

- *Riprap:* Riprap should be washed and have a minimum diameter of 6 inches (0.15 meters).
- *Sandbags:* Sandbags should consist of materials which are resistant to ultra-violet radiation, tearing, and puncture and should be woven tightly enough to prevent leakage of the fill material (i.e., sand, fine gravel, etc.).
- *Sheeting:* Sheeting should consist of polyethylene or other materials which are impervious and resistant to puncture and tearing.

INSTALLATION GUIDELINES

All erosion and sediment control devices, including dewatering basins, should be implemented as the first order of business according to a plan approved by the WMA or local authority. Installation should proceed from upstream to downstream during periods of low flow. If necessary, silt fence or straw bales should be installed around the perimeter of the work area.

Sandbag/stone diversions can be used independently or as components of other stream diversion techniques. Installation of this measure should proceed as follows (refer to Detail 1.5):

1. The diversion structure should be installed from upstream to downstream.
2. The height of the sandbag/stone diversion should be a function of the duration of the project in the stream reach. For projects with a duration less than 2 weeks, the height of the diversion should be one half the streambank height, measured from the channel bed, plus 1 foot (0.3 meters) or bankfull height, whichever is greater. For projects of longer duration, the top of the sandbag or stone diversion should correspond to bankfull height. For diversion structures utilizing sandbags, the stream bed should be hand prepared prior to placement of the base layer of sandbags in order to ensure a water tight fit. Additionally, it may be necessary to prepare the bank in a similar fashion.
3. All excavated material should be deposited and stabilized in an approved area outside the 100-year floodplain unless otherwise authorized by the WMA.
4. Sediment-laden water from the construction area should be pumped to a dewatering basin.

MGWC 1.5: SANDBAG/STONE CHANNEL DIVERSION

5. Sheeting on the diversion should be positioned such that the upstream portion covers the downstream portion with at least a 18-inch (0.45 meters) overlap.
6. Sandbag or stone diversions should not obstruct more than 45% of the stream width. Additionally, bank stabilization measures should be placed in the constricted section if accelerated erosion and bank scour are observed during the construction time or if project time is expected to last more than 2 weeks.
7. Prior to removal of these temporary structures, any accumulated sediment should be removed, deposited and stabilized in an approved area outside the 100-year floodplain unless authorized by the WMA.
8. Sediment control devices are to remain in place until all disturbed areas are stabilized in accordance with an approved sediment and erosion control plan and the inspecting authority approves their removal.

Baltimore County Soil Conservation District
APPROVED FOR SEDIMENT CONTROL
Jeffrey P. Watt 2-24-22
DATE

CONTRACT COMPLETION BOX
CONTRACTOR:
DATE COMPLETED:
INSPECTOR:
PIPE MATERIAL (Pressure Only)

PRINTED ON: January 14, 2022 FILENAME: Q:\2012\120804_013_Reisterswood_Gravity\CADD\E&S\ES-5.dwg

SEAL	PROFESSIONAL CERTIFICATION	AS–BUILT / REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE		DPW AND TRANSPORTATION
STATE OF MARYLAND JUSTIN M. LUCAS 44100 PROFESSIONAL ENGINEER DATE: 2/14/2022	I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 44100, EXPIRATION DATE 6/10/2023				–			PLAN SCALE:	N/A	SEE DRAWING 2021–2224 FOR ORIGINAL SIGNATURES
					R.O.W NO.	TSW	49NW37	PROFILE SCALE:	N/A	
		CONTRACT COMPLETION BOX			–				N/A	
		BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	BUR. OF ENGINEERING & CONSTRUCTION
	JMT. 40 WIGHT AVENUE | HUNT VALLEY, MD 21030 P: (410) 329-3100 | F: (410) 472-2200 | www.jmt.com	DGN BY: ENW	REVIEWED BY:		SEE DRAWING 2021–2224 FOR ORIGINAL SIGNATURES					SEE DRAWING 2021–2224 FOR ORIGINAL SIGNATURES
		DWN BY: GNA								
		CHKD BY: JMH	DATE REVIEWED:							

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION – BUREAU OF ENGINEERING & CONSTRUCTION

PROPOSED 8" SANITARY SEWER

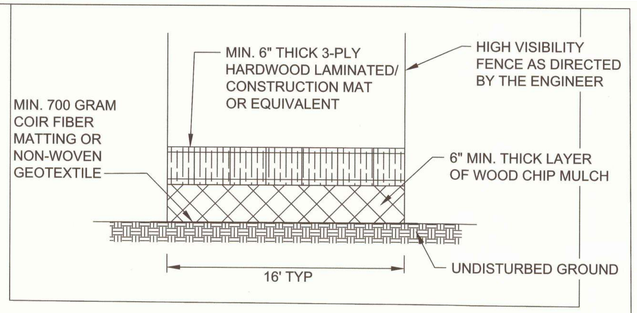
REISTERSWOOD SEWER EXTENSION – CEDARMERE CIRCLE

EROSION AND SEDIMENT CONTROL DETAILS AND SPECIFICATIONS

SUBDIVISION: REISTERSWOOD

ELECTION DIST. NO.: 4c4

SHEET DESIGNATION	CONTRACT NUMBER
ES–5	21240 SX0
	JOB ORDER NUMBER
	231–201–0077–7270
	SHEET 6 OF 12
	DRAWING NUMBER
	2021–2229
	FILE NO.: 1

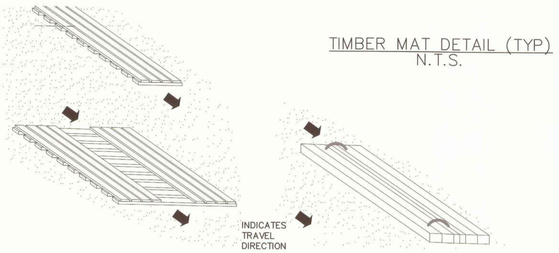


TIMBER MAT ACCESS PATH DETAIL

SCALE: NOT TO SCALE

NOTES:

1. TIMBER MAT ACCESS PATH IS REQUIRED WHEN CROSSING WETLANDS AND WETLAND BUFFERS.
2. MATS SHALL BE PLACED END TO END TO FORM A CONTINUOUS SPAN FOR THE ENTIRE LENGTH OF THE AREA TO BE PROTECTED.
3. MATS SHALL BE INSPECTED FREQUENTLY AND MAINTAINED OR REPLACED AS NECESSARY TO ENSURE THEIR PROPER FUNCTION.
4. INDIVIDUAL MATS SHALL BE SECURELY CONSTRUCTED WITH INDIVIDUAL COMPONENT LAYERS BOLTED, CABLED OR OTHERWISE SECURELY FASTENED.
5. TIMBER MATS SHALL EITHER BE NEW OR POWER WASHED PRIOR TO ARRIVING ON SITE IF PREVIOUSLY USED.
6. MINIMUM 700-GRAM COIR FIBER MATTING COULD BE USED IN LIEU OF NON-WOVEN GEOTEXTILE.



TIMBER MAT DETAIL (TYP)
N.T.S.

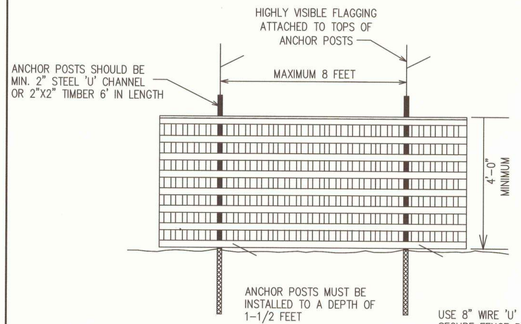
TIMBERS SHOULD BE HELD TOGETHER USING BOLTS OR CABLES TO PROVIDE A SURFACE LARGE ENOUGH FOR THE EQUIPMENT BEING USED.

MATS SHALL BE PLACED END TO END TO FORM A CONTINUOUS SPAN FOR THE ENTIRE LENGTH OF THE AREA TO BE PROTECTED.

MATS SHALL BE INSPECTED FREQUENTLY AND MAINTAINED OR REPLACED AS NECESSARY TO ENSURE THEIR PROPER FUNCTION.

TIMBER MATS ARE TO BE AVAILABLE FOR USE WHEN OPERATING HEAVY EQUIPMENT IN NON-TIDAL WETLANDS AND BUFFERS TO PREVENT DAMAGE.

*DETAIL HAS BEEN PROVIDED FOR CONTRACTOR'S REFERENCE. TYPE 2 TEMPORARY ACCESS ROAD IS NOT EXPECTED TO BE USED DURING CONSTRUCTION.



TREE PROTECTION FENCE DETAILS

NOT TO SCALE

NOTES:

1. BLAZE ORANGE MESH FENCE FOREST PROTECTION DEVICE ONLY.
2. BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE. ALL FOREST STANDS BORDERING THE LOD ARE CONSIDERED RETENTION AREAS.
3. AVOID DAMAGE TO CRITICAL ROOT ZONE. DO NOT DAMAGE OR SEVER LARGE ROOTS WHEN INSTALLING POSTS.
4. PROTECTION SIGNS MUST BE USED. THE DISTANCE EACH SIGN SHALL NOT BE GREATER THAN 100 LF.
5. DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

H-1 STANDARDS AND SPECIFICATIONS FOR MATERIALS

Table H.1: Geotextile Fabrics

		WOVEN SLIT FILM GEOTEXTILE		WOVEN MONOFILAMENT GEOTEXTILE		NONWOVEN GEOTEXTILE	
		MINIMUM AVERAGE ROLL VALUE[1]					
PROPERTY	TEST METHOD	MD	CD	MD	CD	MD	CD
Grab Tensile Strength	ASTM D-4632	200 lb	200 lb	370 lb	250 lb	200 lb	200 lb
Grab Tensile Elongation	ASTM D-4632	15%	10%	15%	15%	50%	50%
Trapezoidal Tear Strength	ASTM D-4533	75 lb	75 lb	100 lb	60 lb	80 lb	80 lb
Puncture Strength	ASTM D-6241	450 lb		900 lb		450 lb	
Apparent Opening Size[2]	ASTM D-4751	U.S. Sieve 30 (0.59 mm)		U.S. Sieve 70 (0.21 mm)		U.S. Sieve 70 (0.21 mm)	
Permittivity	ASTM D-4491	0.05 sec^{-1}		0.28 sec^{-1}		1.1 sec^{-1}	
Ultraviolet Resistance Retained at 500 hours	ASTM D-4355	70% strength		70% strength		70% strength	

[1] All numeric values except apparent opening size (AOS) represent minimum average roll values (MARV). MARV is calculated as the typical minus two standard deviations. MD is machine direction; CD is cross direction.

[2] Values for AOS represent the average maximum opening.

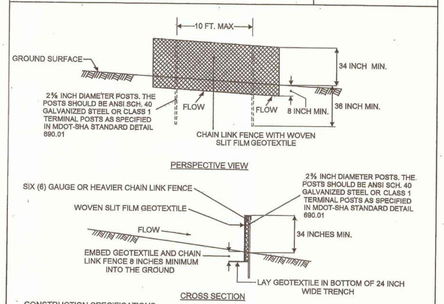
Geotextiles must be evaluated by the National Transportation Product Evaluation Program (NTPEP) and conform to the values in Table H.1.

The geotextile must be inert to commonly encountered chemicals and hydrocarbons and must be rot and mildew resistant. The geotextile must be manufactured from fibers consisting of long chain synthetic polymers and composed of a minimum of 95 percent by weight of polyolefins or polyesters, and formed into a stable network so the filaments or yarns retain their dimensional stability relative to each other, including selvages.

When more than one section of geotextile is necessary, overlap the sections by at least one foot. The geotextile must be pulled taut over the applied surface. Equipment must not run over exposed fabric. When placing riprap on geotextile, do not exceed a one foot drop height.

DETAIL E-3 SUPER SILT FENCE

STANDARD SYMBOL: SSF

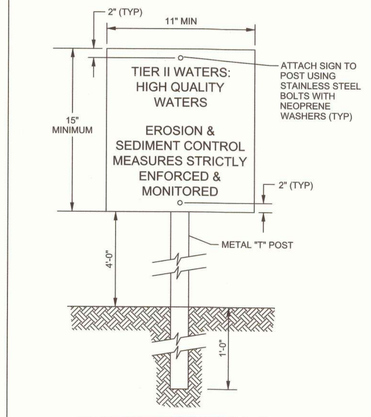


CONSTRUCTION SPECIFICATIONS

1. INSTALL 2¾ INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
2. FASTEN 6 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2¾ INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HOG RINGS.
3. FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H -1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF THE CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND. LAY THE GEOTEXTILE IN THE BOTTOM OF THE 24 INCH WIDE TRENCH.
4. WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BYPASS.
5. EXTEND BOTH ENDS OF THE SUPER SILT FENCE UPHILL A MINIMUM OF 3 VERTICAL FEET TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
6. PROVIDE MANUFACTURERS CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H - 1 MATERIALS.
7. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF THE FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL MODIFIED FOR USE IN BALTIMORE COUNTY		
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	MODIFIED - 2012	MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

APPENDIX 17



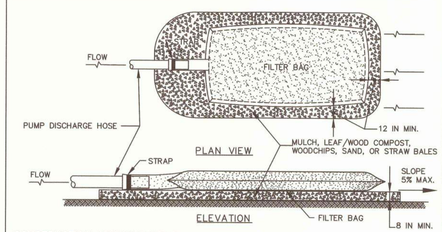
*INSTALL BUFFER ZONE SIGNAGE ALONG PORTIONS OF LOD ADJACENT TO TIER II WATER AREAS AT 50 FOOT INTERVALS.

BUFFER ZONE SIGN DETAILS

NOT TO SCALE

DETAIL F-4 FILTER BAG

STANDARD SYMBOL: ⊠FB



CONSTRUCTION SPECIFICATIONS

1. TIGHTLY SEAL SLEEVE AROUND THE PUMP DISCHARGE HOSE WITH A STRAP OR SIMILAR DEVICE.
2. PLACE FILTER BAG ON SUITABLE BASE (E.G., MULCH, LEAF/WOOD COMPOST, WOODCHIPS, SAND, OR STRAW BALES) LOCATED ON A LEVEL OR 5% MAXIMUM SLOPING SURFACE. DISCHARGE TO A STABILIZED AREA. EXTEND BASE A MINIMUM OF 12' INCHES FROM EDGES OF BAG.
3. CONTROL PUMPING RATE TO PREVENT EXCESSIVE PRESSURE WITHIN THE FILTER BAG IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDATIONS. AS THE BAG FILLS WITH SEDIMENT, REDUCE PUMPING RATE.
4. REMOVE AND PROPERLY DISPOSE OF FILTER BAG UPON COMPLETION OF PUMPING OPERATIONS OR AFTER BAG HAS REACHED CAPACITY, WHICHEVER OCCURS FIRST. SPREAD THE DEWATERED SEDIMENT FROM THE BAG IN AN APPROVED UPLAND AREA AND STABILIZE WITH SEED AND MULCH BY THE END OF THE WORK DAY. RESTORE THE SURFACE AREA BENEATH THE BAG TO ORIGINAL CONDITION UPON REMOVAL OF THE DEVICE.
5. USE NONWOVEN GEOTEXTILE WITH DOUBLE STITCHED SEAMS USING HIGH STRENGTH THREAD. SIZE SLEEVE TO ACCOMMODATE A MAXIMUM 4 INCH DIAMETER PUMP DISCHARGE HOSE. THE BAG MUST BE MANUFACTURED FROM A NONWOVEN GEOTEXTILE THAT MEETS OR EXCEEDS MINIMUM AVERAGE ROLL VALUES (MARV) FOR THE FOLLOWING:

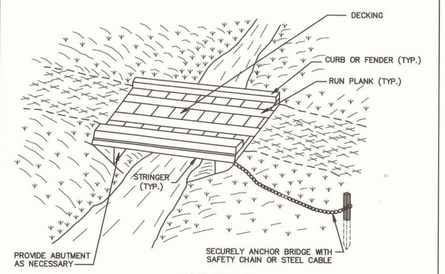
GRAB TENSILE	250 LB	ASTM D-4632
PUNCTURE	150 LB	ASTM D-4833
FLOW RATE	70 GAL/MIN/FT^2	ASTM D-4491
PERMITTIVITY (SEC^{-1})	1.2 SEC^{-1}	ASTM D-4491
UV RESISTANCE	70% STRENGTH @ 500 HOURS	ASTM D-4355
APPARENT OPENING SIZE (AOS)	0.15-0.18 MM	ASTM D-4751
SEAM STRENGTH	90%	ASTM D-4632

6. REPLACE FILTER BAG IF BAG CLOGS OR HAS RIPS, TEARS, OR PUNCTURES. DURING OPERATION KEEP CONNECTION BETWEEN PUMP HOSE AND FILTER BAG WATER TIGHT. REPLACE BEDDING IF IT BECOMES DISPLACED.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL		
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL H-4-1 TEMPORARY ACCESS BRIDGE

STANDARD SYMBOL: TB



LOCATION PLAN

NOTE:
TIME OF YEAR RESTRICTIONS DO NOT APPLY TO THE CONSTRUCTION OR REMOVAL OF A TEMPORARY ACESS BRIDGE UNLESS THERE IS DISTURBANCE TO THE STREAM CHANNEL.

1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL		
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL H-4-1 TEMPORARY ACCESS BRIDGE

STANDARD SYMBOL: TB

CONSTRUCTION SPECIFICATIONS

1. CONSTRUCT TEMPORARY BRIDGE STRUCTURE AT OR ABOVE THE BANK ELEVATION TO PREVENT IMPACTS FROM FLOATING MATERIALS AND DEBRIS.
2. PLACE ABUTMENTS PARALLEL TO, AND ON, STABLE BANKS.
3. CONSTRUCT BRIDGE TO SPAN ENTIRE CHANNEL UNLESS OTHERWISE INDICATED ON APPROVED PLAN.
4. USE STRINGERS CONSISTING OF LOGS, SAWN TIMBER, PRESTRESSED CONCRETE BEAMS, METAL BEAMS, OR OTHER APPROVED MATERIALS.
5. SELECT DECKING MATERIALS TO PROVIDE SUFFICIENT STRENGTH TO SUPPORT THE ANTICIPATED LOAD. PLACE ALL DECKING MEMBERS PERPENDICULAR TO THE STRINGERS, BUTT TIGHTLY, AND SECURELY FASTEN. DECKING MATERIALS MUST BE BUTTED TIGHTLY TO PREVENT ANY SOIL MATERIAL TRACKED ONTO THE BRIDGE FROM FALLING INTO THE WATERWAY BELOW.
6. SECURELY FASTEN OPTIONAL RUN PLANKING FOR THE LENGTH OF THE SPAN. PROVIDE A RUN PLANK FOR EACH TRACK OF THE EQUIPMENT WHEELS. ALTHOUGH RUN PLANKS ARE OPTIONAL, THEY MAY BE NECESSARY TO PROPERLY DISTRIBUTE LOADS.
7. INSTALL CURBS THE ENTIRE LENGTH OF THE OUTER SIDES OF THE DECK TO PREVENT SEDIMENT FROM ENTERING THE STREAM CHANNEL.
8. ANCHOR BRIDGE SECURELY AT ONLY ONE END USING STEEL CABLE OR CHAIN. ANCHORING AT ONLY ONE END WILL PREVENT CHANNEL OBSTRUCTION IN THE EVENT THAT FLOODWATERS FLOAT THE BRIDGE. ACCEPTABLE ANCHORS ARE LARGE TREES, LARGE BOULDERS, OR DRIVEN STEEL POSTS. ANCHOR MUST BE SUFFICIENT TO PREVENT THE BRIDGE FROM FLOATING DOWNSTREAM.
9. AREAS DISTURBED DURING BRIDGE INSTALLATION AND\OR REMOVAL MUST NOT BE LEFT UNSTABILIZED OVERNIGHT UNLESS THE RUNOFF IS DIRECTED TO AN APPROVED SEDIMENT CONTROL DEVICE.
10. STABILIZE APPROACH TO BRIDGE AND KEEP FREE OF EROSION. CLEAN SEDIMENT FROM DECKING AND CURBS DAILY BY SCRAPING, SWEEPING, AND/OR VACUUMING. ENSURE THAT DECKING AND CURBS REMAIN TIGHTLY BUTTED WITHOUT GAPS. REMOVE DEBRIS TRAPPED BY BRIDGE. MAINTAIN AREAS ADJACENT TO CROSSING TO CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.
11. AFTER THE TEMPORARY CROSSING IS NO LONGER NEEDED, REMOVE IT WITHIN 14 CALENDAR DAYS. IF SUBJECT TO THE USE DESIGNATION CLOSURE, REMOVE AT THE END OF CLOSURE PERIOD. PROTECT STREAM BANKS DURING BRIDGE REMOVAL AND STABILIZE ALL DISTURBED AREAS WITH EROSION CONTROL MATTING. ACCOMPLISH REMOVAL OF THE BRIDGE AND CLEAN UP OF THE AREA WITHOUT CONSTRUCTION EQUIPMENT WORKING IN THE WATERWAY CHANNEL. STORE ALL REMOVED MATERIALS IN AN APPROVED STAGING AREA.

2 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL		
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

SEAL: STATE OF MARYLAND — JUSTIN M. KLINE — 44100 — PROFESSIONAL ENGINEER

DATE: 4/7/2022

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 44100, EXPIRATION DATE 6/10/2023

JMT. 40 WIGHT AVENUE | HUNT VALLEY, MD 21030 P: (410) 329-3100 | F: (410) 472-2200 | www.jmt.com

DGN BY: ENW
DWN BY: GNA
CHKD BY: JMH

AS-BUILT / REVISION	BY	DATE
CONTRACT COMPLETION BOX		

P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE
-			PLAN SCALE: N/A
R.O.W NO.	TSW	49NW37	PROFILE SCALE: N/A
-			

BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:	SEE DRAWING 2021-2224 FOR ORIGINAL SIGNATURES						
DATE REVIEWED:							

DPW AND TRANSPORTATION	BUR. OF ENGINEERING & CONSTRUCTION
SEE DRAWING 2021-2224 FOR ORIGINAL SIGNATURES	SEE DRAWING 2021-2224 FOR ORIGINAL SIGNATURES

Baltimore County Soil Conservation District
APPROVED FOR SEDIMENT CONTROL
Jeffrey P. Wastler 2-24-22
DATE

CONTRACT COMPLETION BOX
CONTRACTOR:
DATE COMPLETED:
INSPECTOR:
PIPE MATERIAL (Pressure Only)

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION – BUREAU OF ENGINEERING & CONSTRUCTION

PROPOSED 8" SANITARY SEWER

REISTERSWOOD SEWER EXTENSION – CEDARMERE CIRCLE

EROSION AND SEDIMENT CONTROL DETAILS AND SPECIFICATIONS

SUBDIVISION: REISTERSWOOD

ELECTION DIST. NO.: 4c4

SHEET DESIGNATION	CONTRACT NUMBER
ES-6	21240 SX0
	JOB ORDER NUMBER
	231-201-0077-7270
	SHEET 7 OF 12
	DRAWING NUMBER
	2021-2230
	FILE NO.: 1

BALTIMORE COUNTY MARYLAND

PRINTED ON: February 9, 2022 FILENAME: Q:\2012\120804_013_Reisterswood_Growth\CADD\E&S\ES-6.dwg

REISTERSWOOD GRAVITY SEWER EXTENSION
FOREST STAND DELINEATION

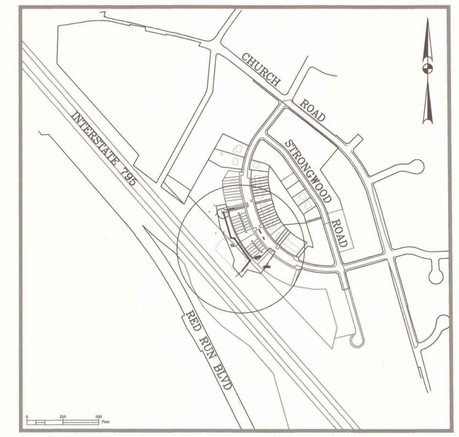
FOREST STAND DELINEATION
SCALE: 1" = 30'

FSD NOTES	
1.	APPROXIMATELY ONE 0.95 ACRE OF THE STUDY AREA (1.39 AC) IS FORESTED; INCLUDING ONE FOREST STAND.
2.	FOREST STAND WAS DELINEATED ON AUGUST 7, 2017.
3	NO PORTIONS OF THE STUDY AREA ARE WITHIN A FEMA 100-YEAR FLOODPLAIN.
4	FOREST STAND 1 CONTAINS TWO WETLANDS AND THEIR ASSOCIATED BUFFERS, TWO REGULATED STREAMS, AND TWO EPHEMERAL CHANNELS.
5.	NO SLOPES GREATER THAN 15% ARE PRESENT WITHIN THE STUDY AREA.
6.	LAND USE (ZONING) WITHIN THE STUDY AREA IS RESIDENTIAL AND WOODED.
7.	THE ENTIRE STUDY AREA OCCURS WITHIN THE MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) 8-DIGIT PATAPSCO RIVER WATERSHED/GWYNNS FALLS SUB-WATERSHED (02130905).
8.	NO STATE OR COUNTY CHAMPION TREES ARE LOCATED WITHIN THE STUDY AREA.
9.	IN A LETTER DATED FEBRUARY 7, 2018, THE MARYLAND HISTORICAL TRUST DETERMINED THAT NO HISTORIC PROPERTIES WILL BE AFFECTED BY THIS UNDERTAKING.
10.	ACCORDING TO THE USFWS OFFICIAL SPECIES LIST FOR THE STUDY AREA, DATED APRIL 6, 2021, NO CRITICAL HABITAT IS LOCATED WITHIN THE STUDY AREA.
11.	IN A LETTER DATED FEBRUARY 23, 2018, MDNR WILDLIFE AND HERITAGE SERVICE DETERMINED THAT NO KNOWN FEDERAL OR STATE LISTED RARE, THREATENED, OR ENDANGERED SPECIES ARE FOUND IN THE STUDY AREA.
12.	IN A LETTER DATED FEBRUARY 6, 2018, THE MDNR ENVIRONMENTAL REVIEW PROGRAM DETERMINED THAT THE PROJECT MAY AFFECT AN UNNAMED TRIBUTARY TO RED RUN, WHICH IS CLASSIFIED AS A USE III STREAM. DUE TO THE PRESENCE OF TROUT, NO INSTREAM WORK IS ALLOWED FROM OCTOBER 1ST THROUGH APRIL 30TH OF ANY GIVEN YEAR TO PROTECT SPAWNING.
13.	NO SPECIES OF CONCERN WERE FOUND IN THE STUDY AREA.

Tree #	DBH	Scientific Name	Common Name	Condition
T-1	36.0	*Acer rubrum*	Red Maple	Good
T-2	32.0	*Liriodendron tulipifera*	Tulip Tree	Fair
T-3	37.9	*Liriodendron tulipifera*	Tulip Tree	Good
T-5	30.5	*Liriodendron tulipifera*	Tulip Tree	Good

LEGEND

- EXISTING MAJOR CONTOUR (635)
- EXISTING MINOR CONTOUR (636)
- EXISTING TREE LINE
- EXISTING HEDGEROW
- STUDY AREA (SA)
- WETLAND BOUNDARY (W)
- WETLAND BUFFER (B)
- STREAM BUFFER (SB)
- WATERS OF THE US (WUS)
- CHAIN LINK/WIRE FENCE
- SPECIMEN TREE CRITICAL ROOT ZONE



VICINITY MAP
SCALE: 1"=500'

SOIL TABLE			
Soil Symbol	Soil Description	Hydric Rating	Hydric Soils
GhB	Glenville silt loam, 3 to 8 percent slopes	10	Predominantly non-hydric (1 - 32%)
GkB	Glenville-Urban land complex, 0-8 percent slopes	0	Not Hydric

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE BALTIMORE COUNTY FOREST CONSERVATION TECHNICAL MANUAL.

MICHELLE KELLER, DNR QUALIFIED PROFESSIONAL — DATE 1/18/22

30' 15' 0 30' 60'
SCALE: 1"= 30'-0"

DESIGN AND DRAWING BASED ON MARYLAND COORDINATE SYSTEM
HORIZONTAL – NAD 83/1991
VERTICAL – NAVD 88

CONTRACT COMPLETION BOX
CONTRACTOR:
DATE COMPLETED:
INSPECTOR:
PIPE MATERIAL (Pressure Only)

PLOTTED ON: January 18, 2022 FILENAME: G:\2012\120804_013_Reisterswood_Growth\CADD\N&CR\FSD_FGP\FSD-1.dwg

SEAL: STATE OF MARYLAND — JUSTIN M. KNAPP — 44100 — PROFESSIONAL ENGINEER
DATE: 3/9/2022

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 44100, EXPIRATION DATE 6/10/2023

JMT
40 WIGHT AVENUE | HUNT VALLEY, MD 21030
P: (410) 329-3100 | F: (410) 472-2200 | www.jmt.com

DGN BY: ENW
DWN BY: GNA
CHKD BY: JMH

AS-BUILT / REVISION	BY	DATE
CONTRACT COMPLETION BOX		

BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:	SEE DRAWING 2021-2224 FOR ORIGINAL SIGNATURES						
DATE REVIEWED:							

P.W.A. NO.	KEY SHEET	POSITION SHT
–	TSW	49NW37
R.O.W NO.		
–		

DRAWING SCALE	
PLAN SCALE:	1"=30'
PROFILE SCALE:	N/A
	N/A

DPW AND TRANSPORTATION
SEE DRAWING 2021-2224 FOR ORIGINAL SIGNATURES
BUR. OF ENGINEERING & CONSTRUCTION
SEE DRAWING 2021-2224 FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION – BUREAU OF ENGINEERING & CONSTRUCTION

PROPOSED 8" SANITARY SEWER

REISTERSWOOD SEWER EXTENSION – CEDARMERE CIRCLE

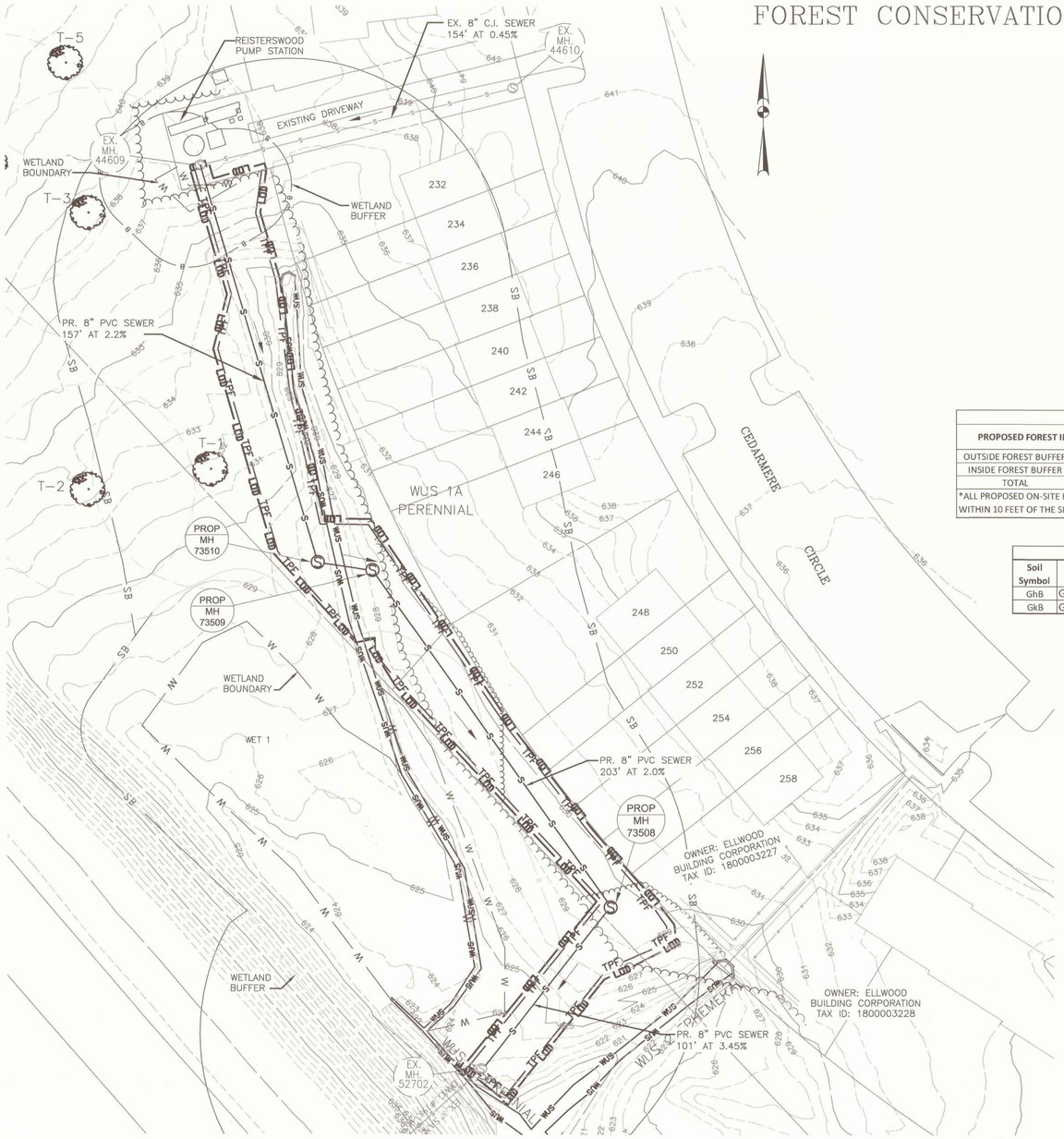
FOREST STAND DELINEATION PLAN – MH 44610 TO MH 44609, MH 44609 TO MH 73510, MH 73510 TO MH 73509, MH 73509 TO MH 73508, MH 73508 TO MH 52702

SUBDIVISION: REISTERSWOOD
ELECTION DIST. NO.: 4c4

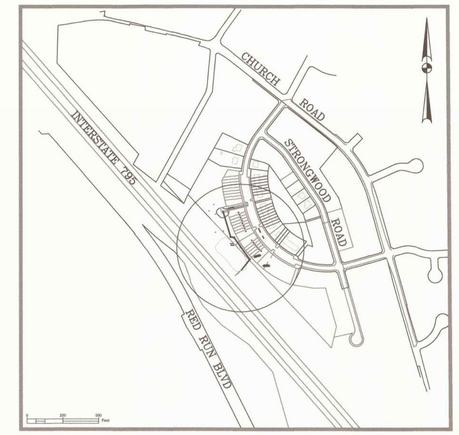
SHEET DESIGNATION	CONTRACT NUMBER
FSD-1	21240 SX0
JOB ORDER NUMBER	231-201-0077-7270
SHEET 8 OF 12	
DRAWING NUMBER	2021-2231
FILE NO.: 1	ZONE

BALTIMORE COUNTY MARYLAND

REISTERSWOOD GRAVITY SEWER EXTENSION
FOREST CONSERVATION/FOREST BUFFER PROTECTION PLAN



FOREST CONSERVATION PLAN
SCALE: 1'' = 30'



VICINITY MAP
SCALE: 1"=500'

FOREST CONSERVATION & FOREST BUFFER PROTECTION MITIGATION TABLE

PROPOSED FOREST IMPACTS (SF)		MITIGATION RATIO	MITIGATION OBLIGATION (SF)	PROPOSED REFORESTATION ON-SITE (SF)	*REMAINING REFORESTATION	FEE-IN-LIEU ($0.55/SF)
OUTSIDE FOREST BUFFER	N/A	1:1	0	0	0	$0.00
INSIDE FOREST BUFFER	8,276	2:1	16,552	3,371	13,181	$7,250
TOTAL	8,276	-	16,552	3,371	13,181	$7,250

*ALL PROPOSED ON-SITE REFORESTATION IS LOCATED WITHIN THE FOREST BUFFER (SEE SHEET SRP-1). PLANTING SHALL NOT OCCUR WITHIN THE SEWER EASEMENT OR WITHIN 10 FEET OF THE SEWER ALIGNMENT. THE REMAINING REFORESTATION REQUIREMENT TO BE MET THROUGH PAYMENT OF FEE-IN-LIEU.

SOIL TABLE

Soil Symbol	Soil Description	Hydric Rating	Hydric Soils
GhB	Glenville silt loam, 3 to 8 percent slopes	10	Predominantly non-hydric (1 - 32%)
GkB	Glenville-Urban land complex, 0-8 percent slopes	0	Not Hydric

LEGEND

- EXISTING MAJOR CONTOUR (635)
- EXISTING MINOR CONTOUR (636)
- EXISTING TREE LINE
- EXISTING HEDGEROW
- LIMIT OF DISTURBANCE (LOD)
- WETLAND BOUNDARY (W)
- WETLAND BUFFER (B)
- STREAM BUFFER (SB)
- WATERS OF THE US (WUS)
- TREE PROTECTION FENCE (TPF)
- CHAIN LINK/WIRE FENCE
- SPECIMEN TREE CRITICAL ROOT ZONE
- SPECIMEN REMOVAL

RESOURCE DATA TABLE

RESOURCE	WITHIN TRACT AREA
TRACT AREA	**0.36**
FOREST (AC.)	0.19 AC
NON-TIDAL WETLANDS (AC.)	61 SF (PEM)
NON-TIDAL WETLAND BUFFERS (AC.)	3,862 SF
STREAM BUFFER (AC.)	12,966 SF
FORESTED STREAM BUFFER (AC)	8,276 SF
STEEP SLOPES 15-25%	0 SF
STEEP SLOPES > 25%	0 SF
100-YEAR FLOODPLAIN (AC)	0 AC

MEASUREMENTS DISPLAYED IN THE TABLE REPRESENTATIVE OF NATURAL RESOURCES WITHIN THE TRACT AREA BOUNDARY ONLY.

Specimen Tree Impacts

Tree #	DBH	Scientific Name	Common Name	Condition	Remove/Retain
T-1	36.0	*Acer rubrum*	Red Maple	Good	Retain
T-2	32.0	*Liriodendron tulipifera*	Tulip Tree	Fair	Retain
T-3	37.9	*Liriodendron tulipifera*	Tulip Tree	Good	Retain
T-5	30.5	*Liriodendron tulipifera*	Tulip Tree	Good	Retain

BALTIMORE COUNTY
DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY
FOREST BUFFER PLAN APPROVAL

Approved by: _____ Date: 4/7/22
Environmental Impact Review
DNR approved qualified professional

Forest Buffer Protection Plan # FBP 22-014

BALTIMORE COUNTY
DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY
FOREST CONSERVATION PLAN APPROVAL

Approved by: _____ Date: 4/7/22
Environmental Impact Review
DNR approved qualified professional

Forest Conservation Plan # FC 22-018

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE BALTIMORE COUNTY FOREST CONSERVATION TECHNICAL MANUAL.

_____ 1/18/22
MICHELLE KELLER, DNR QUALIFIED PROFESSIONAL DATE

30' 15' 0 30' 60'
SCALE: 1"= 30'-0"

DESIGN AND DRAWING BASED ON MARYLAND COORDINATE SYSTEM
HORIZONTAL – NAD 83/1991
VERTICAL – NAVD 88

CONTRACT COMPLETION BOX

CONTRACTOR: _____
DATE COMPLETED: _____
INSPECTOR: _____
PIPE MATERIAL (Pressure Only) _____

SEAL: STATE OF MARYLAND · JUSTIN M. JMH · No. 44100 · PROFESSIONAL ENGINEER
DATE: 3/1/2022

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 44100, EXPIRATION DATE 6/10/2023

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DGN BY: ENW
DWN BY: GNA
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AS-BUILT / REVISION	BY	DATE
CONTRACT COMPLETION BOX		

P.W.A. NO.	KEY SHEET	POSITION SHT
–	TSW	49NW37
R.O.W NO.		
–		

DRAWING SCALE
PLAN SCALE: 1"=30'
PROFILE SCALE: N/A
N/A

BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:	SEE DRAWING 2021-2224 FOR ORIGINAL SIGNATURES						
DATE REVIEWED:							

DPW AND TRANSPORTATION
SEE DRAWING 2021-2224 FOR ORIGINAL SIGNATURES
BUR. OF ENGINEERING & CONSTRUCTION
SEE DRAWING 2021-2224 FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION – BUREAU OF ENGINEERING & CONSTRUCTION

PROPOSED 8" SANITARY SEWER

REISTERSWOOD SEWER EXTENSION – CEDARMERE CIRCLE

FOREST CONSERVATION/FOREST BUFFER PROTECTION PLAN – MH 44610 TO MH 44609, MH 44609 TO MH 73510, MH 73510 TO MH 73509, MH 73509 TO MH 73508, MH 73508 TO MH 52702

SUBDIVISION: REISTERSWOOD
ELECTION DIST. NO.: 4c4

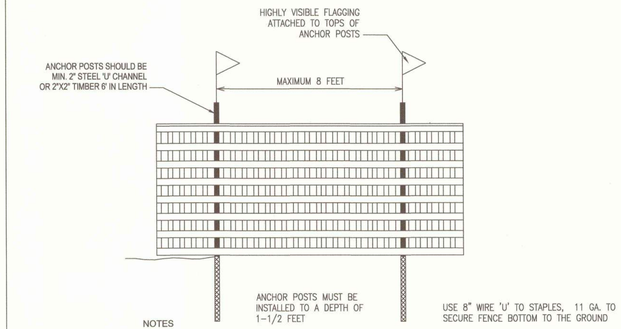
SHEET DESIGNATION	CONTRACT NUMBER
FC-FBPP-1	21240 SX0
	JOB ORDER NUMBER
	231-201-0077-7270
	SHEET 9 OF 12
	DRAWING NUMBER
	2021-2232
	FILE NO.: 1

BALTIMORE COUNTY MARYLAND

PRINTED ON: January 18, 2022 FILENAME: G:\2012\120804_013_Reisterswood_Gravity\CADD\N&CR\FSD_FCP\FCP-FBPP\DRAFT FCP-FBPP 1.dwg

NOTES:

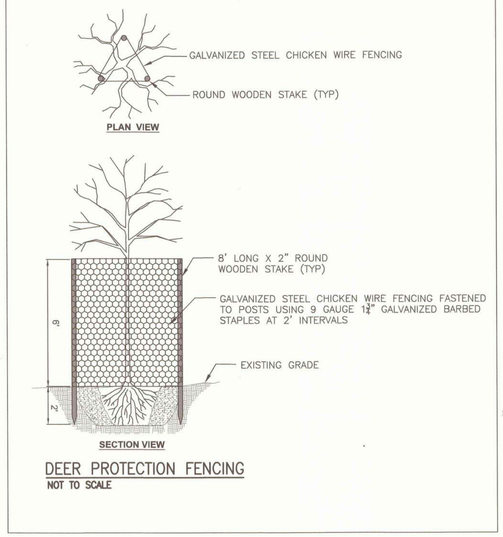
1. PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY, THE CONTRACTOR SHALL LOCATE THE LIMITS OF DISTURBANCE (LOD) IN THE FIELD.
2. PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING AND SIGNAGE SHALL BE INSTALLED AS PER THE DETAILS ON THIS SHEET ALONG ALL LOD ADJACENT TO FOREST.
3. EVALUATE TREE CONDITIONS AND CRITICAL ROOT ZONES. TIMBER MATS AND MULCH WILL BE INSTALLED PER THE DETAIL ON THE EROSION AND SEDIMENT CONTROL NOTES AND DETAILS SHEETS (ES-5 & ES-6). TIMBER MATS AND MULCH WILL MINIMIZE SOIL COMPACTION WITHIN CRITICAL ROOT ZONE AREAS, WETLANDS, AND THEIR ASSOCIATED BUFFERS.
4. ALL EQUIPMENT AND MACHINERY SHALL BE KEPT INSIDE THE TREE PROTECTION FENCING AND WITHIN THE LOD.
5. ANY TYPE OF DISTURBANCE BEYOND THE LOD IS STRICTLY PROHIBITED.
6. PLACEMENT OF EXCAVATED / BACKFILL MATERIAL AND STORAGE OF EQUIPMENT / MACHINERY SHALL BE AVOIDED WITHIN THE CRITICAL ROOT ZONE AREAS OF SPECIMEN TREES IN ORDER TO MINIMIZE SOIL COMPACTION IN THESE SENSITIVE AREAS.
7. CONTRACTOR SHALL REMAIN WITHIN COMPLIANCE OF THE FOREST CONSERVATION PLAN/FOREST BUFFER PROTECTION PLAN AND ALL EROSION AND SEDIMENT CONTROL MEASURES.
8. THIS PLAN IS FOR FOREST CONSERVATION PURPOSES ONLY.
9. THE PROJECT SITE IS NOT WITHIN THE CHESAPEAKE BAY CRITICAL AREA.
10. CONTRACTOR SHALL FOLLOW THE MARYLAND STATE FOREST CONSERVATION TECHNICAL MANUAL AND THE BALTIMORE COUNTY FOREST CONSERVATION TECHNICAL MANUAL FOR TREE PROTECTION.
11. USE OF TIMBER MATS AND MULCH WILL MINIMIZE IMPACTS TO CRITICAL ROOT ZONES OF SPECIMEN TREES, ALLOWING TREES WITH IMPACTED ROOT ZONES TO REMAIN.
12. THE CRITICAL ROOTS ZONES OF SPECIMEN TREES OCCUR WITHIN THE LOD BUT THE TREES WILL REMAIN IN PLACE. TREE PROTECTION FENCING SHALL BE INSTALLED AS PER THE DETAIL ON THIS SHEET AROUND SPECIMEN TREES WHERE THIS APPLIES.
13. TREES SHALL NOT BE PLANTED LESS THAN 10 FEET FROM SEWER LINE. TREES SHALL BE PLANTED NO LESS THAN 13 FEET AND NO GREATER THAN 18 FEET APART. DO NOT PLANT IN STRAIGHT ROWS OR GRIDS. SEE PLANTING PLANS FOR PLANTING ZONES, DETAILS, AND SCHEDULES.
14. SEE SHEET ES-4 FOR NOTES AND SPECIFICATIONS FOR TURFGRASS SEED MIXTURES AND RATES.
15. ALL AREAS WITHIN PROJECT LOD TO RECEIVE TURFGRASS SEED MIX AND TYPE A MATTING OR SOD. ADDITIONALLY TREES WILL BE PLANTED WITHIN THESE AREAS AS INDICATED ON THE LANDSCAPE PLANS.
16. PERMANENTLY IMPACTED FORESTED FOREST BUFFER SHALL BE MITIGATED AT A 2:1 RATIO, WHICH INCLUDES THE 1:1 REFORESTATION TO ADDRESS FOREST CONSERVATION REQUIREMENTS.
17. THE OBLIGATION FOR MITIGATION THAT CANNOT BE REPLANTED ON SITE WILL BE MET BY PAYING FEE IN LIEU OF $0.55/SQUARE FOOT ($7,250.00).
18. BALTIMORE COUNTY EIR SHALL BE NOTIFIED UPON THE COMPLETION OF THE PLANTING, PRIOR TO THE PLANTING CONTRACTOR LEAVING THE SITE. ANY ISSUES WITH THE BUFFER RESTORATION SHALL BE ADDRESSED AT THAT TIME.
19. AN ALTERNATIVES ANALYSIS WAS APPROVED ON AUGUST 25, 2021, BY THE BALTIMORE COUNTY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY FROM THE LAW FOR THE PROTECTION OF WATER QUALITY, STREAMS, WETLANDS, AND FLOODPLAINS TO IMPACT 0.33 ACRES OF FOREST BUFFER, INCLUDING 500 SQUARE FEET OF NON-TIDAL STREAM CHANNEL. CONDITIONS WERE PLACED ON THIS APPROVAL TO REDUCE IMPACTS TO WATER QUALITY, INCLUDING RESTORATION OF TEMPORARILY DISTURBED BUFFER AREAS AND OFFSITE RESTORATION.



NOTES

1. BLAZE ORANGE PLASTIC MESH FENCE FOREST PROTECTION DEVICE, ONLY.
2. BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE. ALL FOREST STANDS BORDERING THE LOD ARE CONSIDERED RETENTION AREAS.
3. AVOID DAMAGE TO CRITICAL ROOT ZONE. DO NOT DAMAGE OR SEVER LARGE ROOTS WHEN INSTALLING POSTS.
4. PROTECTION SIGNS MUST BE USED. THE DISTANCE BETWEEN EACH SIGN SHALL NOT BE GREATER THAN 100 LF.
5. DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.
6. ORANGE HIGH VISIBILITY FENCE SHALL BE MANUALLY INSTALLED ALONG THE ENTIRE LIMIT OF DISTURBANCE. THIS SHALL BE COMPLETED BY AND INSPECTED AT THE PRE-CONSTRUCTION MEETING.

TREE PROTECTION FENCE DETAILS
NOT TO SCALE



DEER PROTECTION FENCING
NOT TO SCALE

ALL PRUNING SHALL BE DONE BY AN I.S.A. CERTIFIED ARBORIST OR UNDER THE DIRECTION OF. DO NOT HEAVILY PRUNE TREES AT PLANTING.
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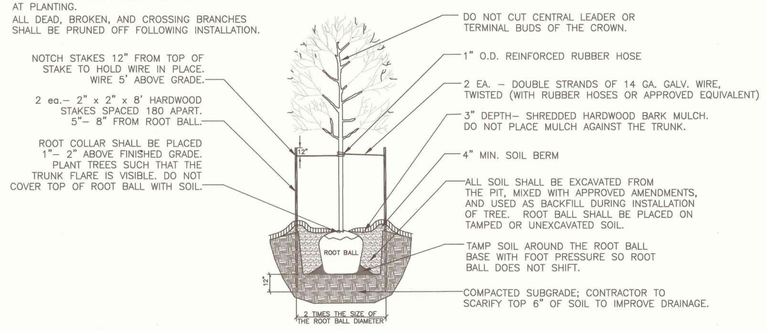


PLANTING AND STAKING DETAIL
NOT TO SCALE

BALTIMORE COUNTY
DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY
FOREST BUFFER PLAN APPROVAL

Approved by: [signature] Date: 4/7/22
Environmental Impact Review
DNR approved qualified professional

Forest Buffer Protection Plan # FBP 22-014

BALTIMORE COUNTY
DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY
FOREST CONSERVATION PLAN APPROVAL

Approved by: [signature] Date: 4/7/22
Environmental Impact Review
DNR approved qualified professional

Forest Conservation Plan # FC 22-018

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE BALTIMORE COUNTY FOREST CONSERVATION TECHNICAL MANUAL.

[signature] 3/8/2022
MICHELLE KELLER, DNR QUALIFIED PROFESSIONAL DATE

CONTRACT COMPLETION BOX
CONTRACTOR:
DATE COMPLETED:
INSPECTOR:
PIPE MATERIAL (Pressure Only)

DESIGN AND DRAWING BASED ON MARYLAND COORDINATE SYSTEM
HORIZONTAL – NAD 83/1991
VERTICAL – NAVD 88

SEAL: STATE OF MARYLAND · JUSTIN M. · 44100 · PROFESSIONAL ENGINEER
DATE: 3/8/2022

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 44100, EXPIRATION DATE 6/10/2023

JMT
40 WIGHT AVENUE | HUNT VALLEY, MD 21030
P: (410) 329-3100 | F: (410) 472-2200 | www.jmt.com

DGN BY: ENW
DWN BY: GNA
CHKD BY: JMH

AS-BUILT / REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE
			–	TSW	49NW37	PLAN SCALE:
			R.O.W NO.			PROFILE SCALE: N/A
CONTRACT COMPLETION BOX			–			N/A

BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:	SEE DRAWING 2021-2224 FOR ORIGINAL SIGNATURES						
DATE REVIEWED:							

DPW AND TRANSPORTATION
SEE DRAWING 2021-2224 FOR ORIGINAL SIGNATURES
BUR. OF ENGINEERING & CONSTRUCTION
SEE DRAWING 2021-2224 FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION – BUREAU OF ENGINEERING & CONSTRUCTION

PROPOSED 8" SANITARY SEWER

REISTERSWOOD SEWER EXTENSION – CEDARMERE CIRCLE

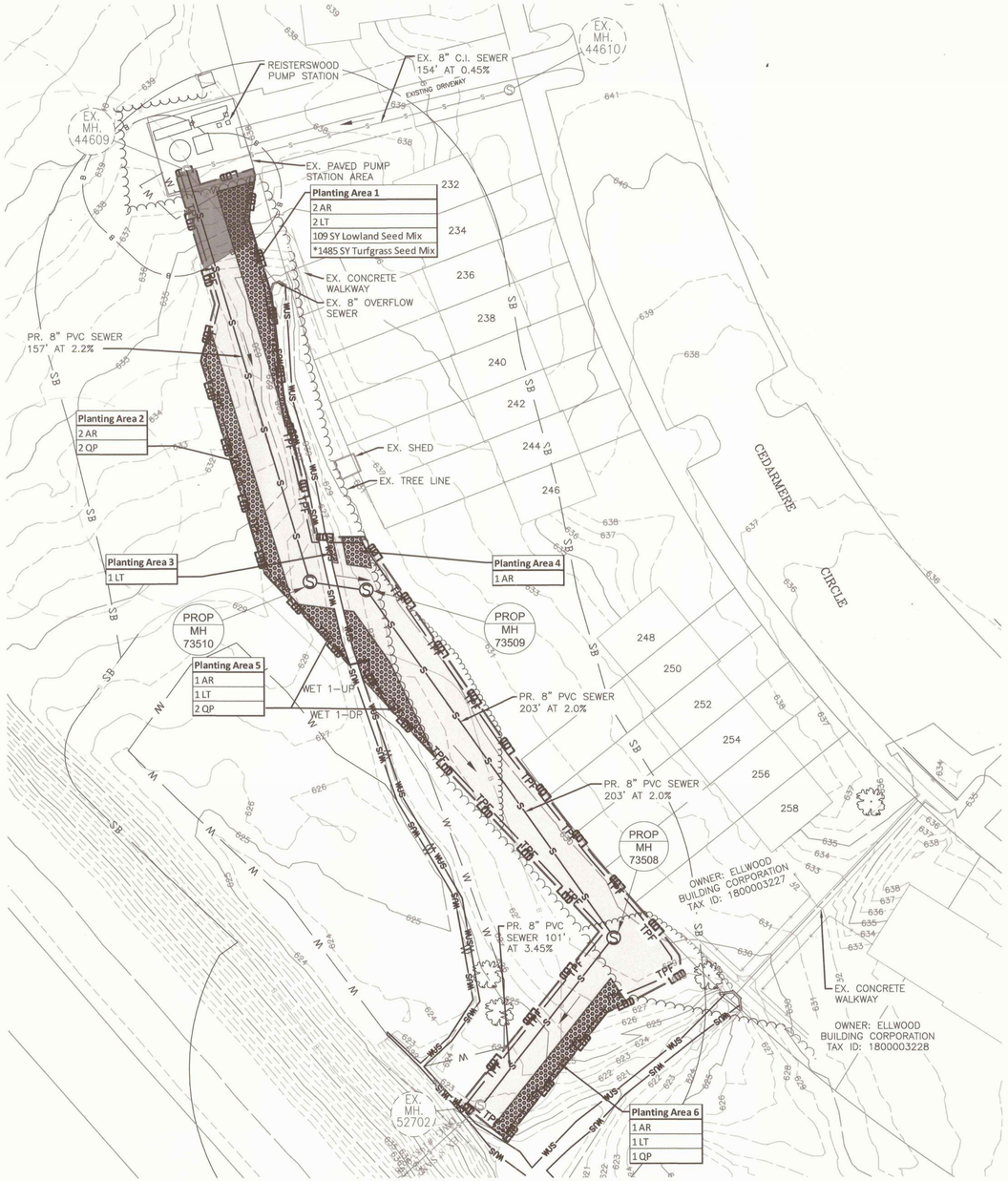
FOREST CONSERVATION/FOREST BUFFER PROTECTION PLAN – PLANTING NOTES AND SCHEDULES

SUBDIVISION: REISTERSWOOD
ELECTION DIST. NO.: 4c4

SHEET DESIGNATION	CONTRACT NUMBER
FC-FBPP-2	21240 SX0
	JOB ORDER NUMBER
	231-201-0077-7270
	SHEET 10 OF 12
	DRAWING NUMBER
	2021-2233
	FILE NO.: 1 REV. NO.

BALTIMORE COUNTY MARYLAND

PRINTED ON: March 7, 2022 @ 12:47 PM FILENAME: Q:\2012\120804_013_Reisterswood_Growth\CADD\N&CR\FSD_FCP-FBPP\DRAFT FCP-FBPP 2.dwg



SEEDING AND REFORESTATION PLAN

SCALE: 1'' = 30'

LEGEND:

- TREE
- TURFGRASS SEED MIX
- LOWLAND SEED MIX
- EXISTING TREELINE
- EXISTING HEDGEROW

NOTES:

1. TREES SHALL NOT BE PLANTED WITHIN 10 FEET OF SEWER LINE. SHRUBS SHALL NOT BE PLANTED WITHIN 5 FEET OF SEWER LINE. DO NOT PLANT IN STRAIGHT ROWS OR GRIDS.
2. ALL AREAS WITHIN PROJECT LOD OR LOFA TO RECEIVE TURFGRASS SEED MIX AND TYPE A MATTING. ADDITIONALLY TREES AND SHRUBS WILL BE PLANTED WITHIN THESE AREAS AS INDICATED ON THESE LANDSCAPE PLANS.

PLANT SCHEDULE

KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE (MIN.)	ROOT	SPACING
Major Deciduous Tree (Total 14 trees)						
AR	7	Acer rubrum	Red Maple	1" cal.	#10 Cont.	15' on center
QP	5	Quercus phellos	Willow Oak	1" cal.	#10 Cont.	15' on center
LT	5	Liriodendron tulipifera	Tulip poplar	1" cal.	#10 Cont.	15' on center

Miscellaneous		
Key	**Name**	**QTY. (SY)**
Turf	Turfgrass Seed Mix	1485
Lowland	Lowland Meadow Seed Mix	109
Topsoil	4" Furnished Topsoil	1594

*1485 SY Turfgrass Seed Mix is for all the disturbed area within the LOD, except for the Lowland Seed Mix area.

Total Planting Areas	
Planting Area	**QTY. (SF)**
Planting Area 1	846
Planting Area 2	893
Planting Area 3	29
Planting Area 4	123
Planting Area 5	798
Planting Area 6	682

BALTIMORE COUNTY
DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY
FOREST BUFFER PLAN APPROVAL

Approved by: [signature] Date: 4/7/22
Environmental Impact Review
DNR approved qualified professional

Forest Buffer Protection Plan # FBP 22-014

BALTIMORE COUNTY
DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY
FOREST CONSERVATION PLAN APPROVAL

Approved by: [signature] Date: 4/7/22
Environmental Impact Review
DNR approved qualified professional

Forest Conservation Plan # FC 22-018

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE BALTIMORE COUNTY FOREST CONSERVATION TECHNICAL MANUAL.

[signature] 3/1/2022
MICHELLE KELLER, DNR QUALIFIED PROFESSIONAL DATE

30' 15' 0 30' 60'
SCALE: 1"= 30'-0"

DESIGN AND DRAWING BASED ON MARYLAND COORDINATE SYSTEM
HORIZONTAL – NAD 83/1991
VERTICAL – NAVD 88

CONTRACT COMPLETION BOX
CONTRACTOR:
DATE COMPLETED:
INSPECTOR:
PIPE MATERIAL (Pressure Only)

SEAL: STATE OF MARYLAND JUSTIN M. KNAPP 24100 PROFESSIONAL ENGINEER
DATE: 3/1/2022

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 44100 EXPIRATION DATE 6/10/2023

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DGN BY: ENW
DWN BY: GNA
CHKD BY: JMH

AS-BUILT / REVISION	BY	DATE
CONTRACT COMPLETION BOX		

BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:	SEE DRAWING 2021-2224 FOR ORIGINAL SIGNATURES						
DATE REVIEWED:							

P.W.A. NO.	KEY SHEET	POSITION SHT
–	TSW	49NW37
R.O.W NO.		
–		

DRAWING SCALE	
PLAN SCALE:	AS SHOWN
PROFILE SCALE:	N/A
	N/A

DPW AND TRANSPORTATION
SEE DRAWING 2021-2224 FOR ORIGINAL SIGNATURES
BUR. OF ENGINEERING & CONSTRUCTION
SEE DRAWING 2021-2224 FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION – BUREAU OF ENGINEERING & CONSTRUCTION

PROPOSED 8" SANITARY SEWER

REISTERSWOOD SEWER EXTENSION – CEDARMERE CIRCLE

SEEDING AND REFORESTATION PLAN – MH 44610 TO MH 44609, MH 44609 TO MH 73510, MH 73510 TO MH 73509, MH 73509 TO MH 73508, MH 73508 TO MH 52702

SUBDIVISION: REISTERSWOOD

ELECTION DIST. NO.: 4c4

BALTIMORE COUNTY MARYLAND

SHEET DESIGNATION	CONTRACT NUMBER
SRP-1	21240 SXO
JOB ORDER NUMBER	231-201-0077-7270
SHEET	11 OF 12
DRAWING NUMBER	2021-2234
FILE NO.:	1

PRINTED ON: February 1, 2023 FILENAME: Q:\2012\120804_013_Reisterswood_Gravity\CADD\M&CR\SRP\SRP-1.dwg

NOTES:

1. PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY, THE CONTRACTOR SHALL LOCATE THE LIMITS OF DISTURBANCE (LOD) IN THE FIELD.
2. ALL EQUIPMENT AND MACHINERY SHALL BE KEPT WITHIN THE LOD.
3. ANY TYPE OF DISTURBANCE BEYOND THE LOD IS STRICTLY PROHIBITED.
4. PLACEMENT OF EXCAVATED / BACKFILL MATERIAL AND STORAGE OF EQUIPMENT / MACHINERY SHALL BE AVOIDED WITHIN THE CRITICAL ROOT ZONE AREAS OF SPECIMEN TREES IN ORDER TO MINIMIZE SOIL COMPACTION IN THESE SENSITIVE AREAS.
5. CONTRACTOR SHALL REMAIN WITHIN COMPLIANCE OF THE FOREST CONSERVATION PLAN AND ALL EROSION AND SEDIMENT CONTROL MEASURES.
6. THE PROJECT SITE IS NOT WITHIN THE CHESAPEAKE BAY CRITICAL AREA.
7. CONTRACTOR SHALL FOLLOW THE MARYLAND STATE FOREST CONSERVATION TECHNICAL MANUAL AND THE BALTIMORE COUNTY FOREST CONSERVATION TECHNICAL MANUAL FOR TREE PROTECTION.
8. SEE SHEET ES-4 FOR NOTES AND SPECIFICATIONS FOR TURFGRASS SEED MIXTURES AND RATES.
9. TREES SHALL NOT BE PLANTED WITHIN 10 FEET FROM SEWER LINE. TREES SHALL BE PLANTED NO LESS THAN 13 FEET AND NO GREATER THAN 18 FEET APART. DO NOT PLANT IN STRAIGHT ROWS OR GRIDS.
10. ALL AREAS WITHIN PROJECT LOD TO RECEIVE TURFGRASS SEED MIX AND TYPE A MATTING. ADDITIONALLY TREES WILL BE PLANTED WITHIN THESE AREAS AS INDICATED ON THESE LANDSCAPE PLANS.

NOTES:

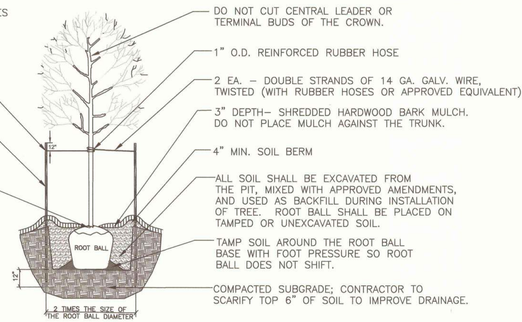
ALL PRUNING SHALL BE DONE BY AN I.S.A. CERTIFIED ARBORIST OR UNDER THE DIRECTION OF. DO NOT HEAVILY PRUNE TREES AT PLANTING.

ALL DEAD, BROKEN, AND CROSSING BRANCHES SHALL BE PRUNED OFF FOLLOWING INSTALLATION.

NOTCH STAKES 12" FROM TOP OF STAKE TO HOLD WIRE IN PLACE. WIRE 5' ABOVE GRADE.

2 ea.– 2" x 2" x 8' HARDWOOD STAKES SPACED 180 APART. 5"– 8" FROM ROOT BALL.

ROOT COLLAR SHALL BE PLACED 1"– 2" ABOVE FINISHED GRADE. PLANT TREES SUCH THAT THE TRUNK FLARE IS VISIBLE. DO NOT COVER TOP OF ROOT BALL WITH SOIL.



PLANTING AND STAKING DETAIL
NOT TO SCALE

BALTIMORE COUNTY
DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY
FOREST BUFFER PLAN APPROVAL

Approved by: _____ Date: 4/7/22
Environmental Impact Review
DNR approved qualified professional

Forest Buffer Protection Plan # FBP 22-014

BALTIMORE COUNTY
DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY
FOREST CONSERVATION PLAN APPROVAL

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DNR approved qualified professional

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_____ 3/1/2022
MICHELLE KELLER, DNR QUALIFIED PROFESSIONAL DATE

CONTRACT COMPLETION BOX
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PIPE MATERIAL (Pressure Only)

PRINTED ON: February 1, 2022 FILENAME: Q:\2012\120804_013_Reisterswood_Growth\CADD\M&CR\SRP\SRP Notes Page.dwg

SEAL
STATE OF MARYLAND — JUSTIN M. HALL — 44100 — PROFESSIONAL ENGINEER
DATE: 3/1/2022

PROFESSIONAL CERTIFICATION
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–	N/A	N/A
R.O.W NO.		
–		

DRAWING SCALE	
PLAN SCALE:	N/A
PROFILE SCALE:	N/A
	N/A

DPW AND TRANSPORTATION: SEE DRAWING 2021-2224 FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
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BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION – BUREAU OF ENGINEERING & CONSTRUCTION

PROPOSED 8" SANITARY SEWER

REISTERSWOOD SEWER EXTENSION – CEDARMERE CIRCLE

SEEDING AND REFORESTATION NOTES AND DETAILS

SUBDIVISION: REISTERSWOOD

ELECTION DIST. NO.: 4c4

SHEET DESIGNATION	CONTRACT NUMBER
SRP-2	21240 SX0
	JOB ORDER NUMBER
	231-201-0077-7270
	SHEET 12 OF 12
	DRAWING NUMBER
	2021-2235
	FILE NO.: 1